AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)	RATING	PAGE 1	OF PAGES 49
2. CONTRACT *(Proc. Inst. Ident.)* NO. W911XK-04-C-0015	3. EFFECTIVE DATE 05 Aug 2004	4. REQUISITION/PURCHASE REQUEST/PROJECT NO. W56MES-4040-7437	

5. ISSUED BY CODE W911XK
CONTRACTING DIVISION
DETROIT DISTRICT, USAED P.O. BOX 1027
DETROIT MI 48231-1027

6. ADMINISTERED BY *(If other than Item 5)* CODE
See Item 5

7. NAME AND ADDRESS OF CONTRACTOR *(No., street, city, county, state and zip code)*
FISHBECK THOMPSON CARR & HUBER INC
KENNETH G. WILEY
1515 ARBORETUM DRIVE
GRAND RAPIDS MI 49546

CODE 48209 FACILITY CODE 48209

8. DELIVERY
[ ] FOB ORIGIN [X] OTHER *(See below)*

9. DISCOUNT FOR PROMPT PAYMENT
NET 30 DAYS

10. SUBMIT INVOICES *(4 copies unless otherwise specified)* TO THE ADDRESS SHOWN IN: ITEM

11. SHIP TO/MARK FOR CODE
GRAND HAVEN AREA OFFICE
307 SOUTH HARBOR STREET
GRAND HAVEN MI 49417

12. PAYMENT WILL BE MADE BY CODE T0B0200
U S ARMY CORPS OF ENGINEERS FINANCE AND
5700 WASP AVENUE
MILLINGTON TN 38054

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )

14. ACCOUNTING AND APPROPRIATION DATA
See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT **$1,920,984.00**

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CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [X] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number W911XK-04-R-0005-0001 including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER *(Type or print)*

20A. NAME AND TITLE OF CONTRACTING OFFICER
WANDA C CARTER-DAVIS / ADDED BY SUMI
TEL: 313 226-5148 EMAIL: Wanda.Carter-Davis@lre02.usace.army.mil

19B. NAME OF CONTRACTOR **19C. DATE SIGNED**
BY _____
(Signature of person authorized to sign)

20B. UNITED STATES OF AMERICA **20C. DATE SIGNED**
BY _____
(Signature of Contracting Officer)
05-Aug-2004

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	Training/Transition Period for On-Site Personnel for 3 Weeks after Contract Award	1	Lump Sum	$0.00	$0.00
0002	All Site Operation and Maintenance Work for One Year Excluding Items listed Below:	1	Lump Sum	$463,942.00	$463,942.00
0003	Chemical Allowance	1	Lump Sum	$224,300.00	$224,300.00
0004	Sludge Disposal	150	Short Ton	$32.00	$4,800.00
0005	Offsite Analytical Work	1	Lump Sum	$24,000.00	$24,000.00
0006	Utility Allowance	1	Lump Sum	$456,200.00	$456,200.00
0007	Operations Staff	1	Lump Sum	$667,742.00	$667,742.00
0008	Unscheduled Maintenance Allowance	1	Lump Sum	$80,000.00	$80,000.00

0009 OPTION	All Site Operation and Maintenance Work for One Year Excluding Items Listed Below:	1	Lump Sum	$482,026.00	$482,026.00
0010 OPTION	Chemical Allowance	1	Lump Sum	$235,500.00	$235,500.00
0011 OPTION	Sludge Disposal	150	Short Ton	$33.28	$4,992.00
0012 OPTION	Offsite Analytical Work	1	Lump Sum	$24,960.00	$24,960.00
0013 OPTION	Utility Allowance	1	Lump Sum	$479,000.00	$479,000.00
0014 OPTION	Operations Staff	1	Lump Sum	$694,452.00	$694,452.00
0015 OPTION	Unscheduled Maintenance Allowance	1	Lump Sum	$85,000.00	$85,000.00
0016 OPTION	All Site Operation & Maintenance Work for One Year Excluding Items Listed Below:	1	Lump Sum	$502,039.00	$502,039.00
0017 OPTION	Chemical Allowance	1	Lump Sum	$247,300.00	$247,300.00

0018 OPTION	Sludge Disposal	150	Short Ton	$34.61	$5,191.50
0019 OPTION	Offsite Analytical Work	1	Lump Sum	$25,958.00	$25,958.00
0020 OPTION	Utility Allowance	1	Lump Sum	$503,000.00	$503,000.00
0021 OPTION	Operations Staff	1	Lump Sum	$722,230.00	$722,230.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022 OPTION	Unscheduled Maintenance Allowance	1	Lump Sum	$90,000.00	$90,000.00
0023 OPTION	All Site Operation & Maintenance Work for One Year	1	Lump Sum	$522,866.00	$522,866.00
0024 OPTION	Chemical Allowance	1	Lump Sum	$259,700.00	$259,700.00
0025 OPTION	Sludge Disposal	150	Short Ton	$36.00	$5,400.00

0026 OPTION	Offsite Analytical Work	1	Lump Sum	$26,997.00	$26,997.00
0027 OPTION	Utility Allowance	1	Lump Sum	$528,200.00	$528,200.00
0028 OPTION	Operations Staff	1	Lump Sum	$751,119.00	$751,119.00
0029 OPTION	Unscheduled Maintenance Allowance	1	Lump Sum	$95,000.00	$95,000.00
0030 OPTION	All Site Operation & Maintenance Work for One Year	1	Lump Sum	$544,527.00	$544,527.00
0031 OPTION	Chemical Allowance	1	Lump Sum	$272,700.00	$272,700.00
0032 OPTION	Sludge Disposal	150	Short Ton	$37.44	$5,616.00
0033 OPTION	Offsite Analytical Work	1	Lump Sum	$28,077.00	$28,077.00

0034 OPTION	Utility Allowance	1	Lump Sum	$554,500.00	$554,500.00
0035 OPTION	Operations Staff	1	Lump Sum	$78,164.00	$78,164.00
0036 OPTION	Unscheduled Maintenance Allowance	1	Lump Sum	$100,000.00	$100,000.00

PAYMENT

MEASUREMENT AND PAYMENT

1. TRAINING/TRANSITION PERIOD FOR ON-SITE PERSONNEL (CONTRACT AWARD THROUGH END OF WEEK 3 AFTER CONTRACT AWARD). This pricing item includes all work associated with initial training of personnel (excluding incumbent contractor) as defined in Section C, paragraph 5.2.1. This activity will occur for approximately 3 weeks prior to the commencement of formal O&M responsibilities as defined in paragraph 2 (and following) below. Payment shall be made on a lump sum basis, based on percentage of work completed.

1AB. OPERATION AND MAINTENANCE OF TREATMENT FACILITY FOR BASE YEAR (1 Year - 365 Calendar Days). Payment for operating and maintaining the facility during the Base Year will be made for those activities commencing from completion of the transition/training period for a period of 1 year. Estimated quantities are listed in the Schedule of Supplies or Services and Prices/Costs.

1.1 ALL SITE OPERATION AND MAINTENANCE WORK FOR 1 YEAR, EXCLUDING UNIT PRICED ITEMS LISTED BELOW (ITEM NOS. 0002, 0009, 0016, 0023 and 0030)

This pricing item shall include, as a minimum, the following costs:

-Snow removal
-Lawn mowing, fertilizing and watering
-Landscaping & lawn maintenance supplies
-Plant alarm and security service
-Replacement of on-site lab consumables
-Telecommunications service (GTF and Gov't offices)
-GC/MS & autosampler maintenance agreement
-Air compressor maintenance agreement
-All necessary insurance's and bonding
-Floor mat services
-Trash removal services
-Initial Transition Training
-Exit Transition Training (final year only)
-Fuels, oils, lubricants
-Partnering requirements
-Laundry/Uniform services
-Field staff per diem
-Drinking water service
-Inventory updating
-Field office equipment
-Paint & associated supplies
-Consumable safety & first aid supplies
-Home Office PM labor, burden and travel
-All other home office administrative costs
-Field staff truck/car rental
-All required Preventative Maintenance
-On-site laboratory consumables
-Field staff training
-Costs for Gov't personnel accommodations
-Postage and other office administration costs

-Submittal and other report preparation
-Safety services, including CIH related expenses
-All computerized record-keeping requirements
-Annual infrared testing of electrical equipment
-Overhead costs and/or profit associated with unscheduled maintenance
-Copier image processing service
-O&M manual updates
-Utility connection fees/deposits
-Utility bill payment administration costs
-Annual Flow Meter Testing/Calibration
-Overhead costs and/or profit associated with chemical/carbon purchases maintenance
-MaintainIt service agreement

This item is intended to include all miscellaneous costs associated with O&M of the OS-GTF that are not specifically included within subsequent items. This list is not intended to be all-inclusive but is intended to outline the types of costs that should be considered and included within a Contractor's proposal. More detailed requirements for several of the items listed are contained in Section C and the facility O&M manual.
Payment shall be made on a lump sum basis, based on percentage of work completed.

1.2 CHEMICAL ALLOWANCES (ITEM NOS. 0003, 0010, 0017, 0024 and 0031)

The Contractor shall provide the chemicals required to operate and maintain the treatment facility as described in Section C. These materials and chemicals shall include two specific polymers (CHEMCO P-255HV and ARCC SPERCE CB-4), phosphoric acid (75%), hydrochloric acid (33^{o} Baume'), ferric chloride (38%), sodium hydroxide (50%), hydroxy acetic acid (70%) (glycolic), and sulfamic acid (Pure), granular activated carbon (GAC) aqueous phase, and powdered activated carbon (PAC). The PAC shall be procured from Norit Americas, Inc. and shall be the lignite type, Hydrodarco C product, unless written direction is obtained from the CO directing the use of an alternate product. Sulfamic acid is measured on a "dry" weight basis per invoices received from vendors/suppliers. All other listed chemicals shall be reimbursed per invoices received from vendors/suppliers on the basis of "wet" weight. Invoices from suppliers will be converted to the applicable wet tonnage based on the diluted solution percentages for chemicals other than sulfamic acid, if necessary. Payment will be made to the Contractor equal to the actual cost of such supplies, based on copies of paid invoices up to the total amount shown on the schedule of supplies & services. Sales taxes are included in the allowances indicated. A table with chemical quantities shall be attached to each invoice. Should annual billings exceed the amount indicated on the schedule, it shall be the Government's responsibility to allocate additional funding to the contract to cover cost overruns. No additional markup will be allowed or paid by the Government over and above the actual billing amount indicated by the service provider.

1.3 SLUDGE DISPOSAL (ITEM NOS. 0004, 0011, 0018, 0025 and 0032)

The Contractor shall provide the transportation and disposal of sludge produced during operation of the treatment facility as described in section C. Based on site history, disposal shall be at a properly licensed and classified disposal facility which is acceptable to the USACE. Measurement for this item shall be based on invoices received from vendors/suppliers. Estimated quantities are listed in the Schedule of Supplies and Services. Payment shall be determined by multiplying the applicable unit price by the quantity disposed. Should analytical analysis determine that the sludge is hazardous, disposal shall be at a properly licensed RCRA permitted disposal facility. In this event, a revision to the contract unit price may be negotiated with the CO.

1.4 OFFSITE ANALYTICAL WORK (ITEM NOS. 0005, 0012, 0019, 0026 and 0033)

This pricing item includes all work associated with the analytical services required to be performed at an independent, off-site laboratory per Section C. Payment will be made on a lump sum basis, based on percentage of work completed.

1.5 UTILITY ALLOWANCES (ITEM NOS. 0006, 0013, 0020, 0027, and 0034)

These pricing items shall include all usage fees for electrical power, natural gas, potable water (including hydrant fees), liquid propane gas for remote generators and diesel fuel for the blended chemical heat treatment to the extraction well preventative maintenance program billed to the site during the period commencing from completion of the transition/training period for a period of 1 year from the applicable local utility/municipal provider. The Contractor is responsible for prompt payment of all bills to avoid late fees or service charges. The Contractor shall take all reasonable steps to conserve energy, gas and water consumption throughout the contractual period of performance. Payment will be made to the Contractor equal to the actual cost of such services, based on copies of paid invoices up to the total amount shown on the schedule of supplies & services. Sales taxes are included in the allowances indicated. A table with totals of each utility shall be attached to each invoice. Should annual billings exceed the amount indicated on the schedule, it shall be the Government's responsibility to allocate additional funding to the contract to cover cost overruns. No additional markup will be allowed or paid by the Government over and above the actual billing amount indicated by the service provider.

1.6 OPERATIONS STAFF (ITEM NOS. 0007, 0014, 0021, 0028 and 0035)

This pricing item shall include all costs related to the personnel required to operate, maintain and administer the facility during the period commencing from completion of the transition/training period for a period of 1 year, per the requirements contained in Section C. As a minimum, eight (8) full-time personnel shall be provided. Payment shall be made on a lump sum basis, based on percentage of work completed.

1.7 UNSCHEDULED MAINTENANCE ALLOWANCE (ITEM NOS. 0008, 0015, 0022, 0029, and 0036).

This pricing item includes replacement parts and equipment required during the period commencing from completion of the transition/training period for a period of 1 year. Equipment and materials under this line item cannot be covered by warranty or required to be on site by any other contractual requirement. The Government shall assume responsibility for payment provided that the prior scheduled maintenance activities have been performed. The Contractor shall be reimbursed through contract modifications up to the total amount indicated on the schedule per Section C. Should the need for replacement parts exceed the amount indicated on the schedule, it shall be the Government's responsibility to allocate additional funding to the contract to cover the cost overruns. All equipment purchased under this schedule item shall become property of the facility upon payment. Payment will be made to the Contractor equal to the actual cost of such services, based on copies of paid invoices up to the total amount shown on the schedule of supplies & services. Sales taxes are included in the allowance indicated. Should annual billings exceed the amount indicated on the schedule, it shall be the Government's responsibility to allocate additional funding to the contract to cover cost overruns. No additional markup will be allowed or paid by the Government over and above the actual billing amount.

SECTION C

DESCRIPTION/SPECS/WORK STATEMENT

The scope of this contract includes all work associated with Operation and Maintenance (O&M) of the Ott-Story (OS) Groundwater Treatment Facility (GTF). The O&M Manuals for the Groundwater Treatment Facility, are available for the preparation of the Contractor proposal. Operation of the OS-GTF shall be in accordance with these manuals, unless otherwise indicated.

The Contractor shall be directly responsible for furnishing all labor, materials, equipment, and services required to operate and maintain the system**.** Upon completion of the contract, the Contractor shall remove from the site all equipment, materials and tools which are not Government-owned property.

1. General

1.1. Definitions

The following definitions are critical to understanding how the Contractor will be reimbursed for maintenance expenses incurred as a result of site activities.

Scheduled Maintenance: For the purpose of this contract, scheduled maintenance includes all foreseeable maintenance requirements. Scheduled maintenance includes adjusting, servicing, repairing, overhauling or replacing existing systems and components required to accomplish facility operation, all normal housekeeping activities, items specified within the existing site preventative maintenance computer program, “MaintainIt”, and exterior site maintenance (i.e. snowplowing, lawn mowing, etc.) The contractor may provide their own preventive maintenance program provided it demonstrates equivalent performance and requires approval from the Government. Scheduled maintenance includes all foreseeable maintenance requirements, including activities or functions which are performed on a specific schedule, or completed on a regular interval (e.g., monthly oil change). No additional funding will be provided to the Contractor for work performed under scheduled maintenance.

Unscheduled Maintenance: Unscheduled maintenance includes operation and maintenance activities which are not specified or “anticipated”, but are required to allow for efficient facility operation (e.g., belt breakage, pump failure). Unscheduled maintenance consists of repair / replacement of parts which would normally not be required as part of the scheduled maintenance category. This type of maintenance includes activities which become necessary as a result of unforeseen, unexpected, or unusual causes (e.g., motor failure, pipeline failure), as well as non-routine corrective maintenance. The Contractor will be reimbursed in accordance with paragraph 5.5 “Maintenance.”

1.2. Site History

The Ott / Story site is a former organic chemical manufacturing facility located in Dalton Township, Muskegon County, Michigan, about five miles north of the city of Muskegon. The facility manufactured various synthetic organic intermediates, particularly those with a phosgene base. The major products were alkyl isocynates, aromatic isocynates, acid chloride, and carbonates. Solvents, such as benzene, toluene, methanol, dimethylaniline, tetrahydrofuran, and carbon tetrachloride, were used in manufacturing processes. By the mid 1970's, contaminated ground water was found on and offsite. In 1982, the United States Environmental Protection Agency (EPA) included the site on the National Priority List (NPL) as an

uncontrolled hazardous waste site under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) because of the release of hazardous substances from the site.

The original chemical manufacturing facility occupied approximately 20 acres and included a main plant, administration area, recharge lagoon area, and an equalization basin. The facility is surrounded by wooded, undeveloped land. The closest residences are to the west of the site along Whitehall Road, and a mobile home park is approximately 0.2 mile northwest of the facility. Nearby residential areas also exist south and east of the site along Central, River, and Russell Roads.

1.3. **Project Description**

1.3.1 UTILITY CONTACTS

The Contractor shall be responsible for the name transference on all utility billings, including water, sewer, gas, electric, and communications. Utility information is available in the facility O&M manual. Additional questions can be directed to Mr. Brian Bouwhuis, USACE, Civil Engineer, Grand Haven Area Office (616) 842-5510x29.

1.3.2 GENERAL PROJECT DESCRIPTION.

The scope of this project is to operate and maintain the groundwater extraction and collection system, groundwater treatment facility (GTF), site monitoring system, and effluent line. The groundwater extraction and collection system consists of a series of eleven extraction wells pumping contaminated groundwater through a double containment collection system augmented by an electronic leak detection system. An extensive monitoring well system exists as part of this facility. The contaminated groundwater is transported to a flow splitter at the GTF. The GTF is designed with two equal capacity trains each capable of processing 450 gpm. Each train has diffused air strippers designed to provide bulk removal of volatile organic compounds (VOCs) from the ground water. The air exhausted from the stripping basins is directed through a vapor phase thermal oxidation unit (TOU) for destruction of the VOCs. Treated air is exhausted from the TOU stack. The Contractor shall be responsible for operation and maintenance of the entire facility.

Effluent water from the diffused air strippers flows in parallel to two powdered activated carbon treatment (PACT™) tanks. The tanks are package-type plants designed for BOD reduction and VOC destruction. The covered units are vented through the thermal oxidation unit to control odors and prevent emissions of residual VOCs. Aerobically oxidized biomass from the aerobic digesters, in the form of waste activated sludge, is pumped to a sludge holding tank. Thickened sludge is batch fed to plate and frame filter presses for solids concentration and disposal.

Effluent from the clarifiers of the PACT™ process converges into a single stream and enters the Groundwater Treatment Building (GTB) where water is filtered through three continuous backwash type filters to reduce the total suspended solids. The filter backwash is pumped to the head of the treatment facility, while filtered effluent is directed through Granular Activated Carbon (GAC) vessels through a NPDES monitoring station and finally through a Static Aerator (Oxycharger) prior to discharge to the North Branch of the Muskegon River. Some unit processes, controls, and chemical storage are housed in pre-engineered buildings.

1.3.3 DESIGN CRITERIA.

1.3.3.1 Ground Water Extraction Flow Rates

The facility design is based on a flow rate of 900 gallons per minute (gpm). This flow is derived from eleven wells and the facility recycle streams. To provide flexibility within the system, two equal trains are provided, with an average flow rate of 450 gpm each.

1.3.3.2 Plant Design Parameters

Table 1, entitled "Groundwater Treatment System Design Parameters" provides detailed information regarding operational parameters and hydraulic capacities for the various tanks, basins and unit processes on site. Additional information is available in the facility O&M manual and the individual O&M manuals specific to each unit process.

1.3.3.3 Groundwater Influent Characteristics

Table 2, entitled "Estimated Contaminant Concentrations in Ground Water" contains estimated influent concentrations for various chemical parameters expected to be encountered in the influent groundwater under this contract. These contaminants require treatment to achieve NPDES permit compliance as required under this contract.

1.3.3.4 Offgas Contaminant Characteristics

Table 3, entitled "Estimated Contaminant Concentrations in Treatment Process Off-Gas" contains estimated average concentrations expected to be encountered within the stacks of the Diffused Air Strippers. These contaminants require treatment to the standards set by the Michigan Department of Environmental Quality as required under this contract.

1.4. Measurement and Payment

1.4.1 Measurement and payment requirements are listed within Section B.

1.5. General Requirements

Operation and Maintenance (O&M) of the facility shall be in accordance with the facility O&M manual and the following general requirements:

(a) Maintain the groundwater monitoring system and collect and analyze samples in accordance with the Contractor's approved Sampling and Analysis Plan (SAP) which consists of two main parts : Quality Assurance Project Plan (QAPP) and a Field Sampling Plan (FSP). These documents to be prepared and submitted for approval;
(b) Achieve and maintain desired flows from each groundwater extraction well to the groundwater treatment system;
(c) Inspect the extraction and treatment system to determine maintenance requirements;
(d) Operate and maintain the groundwater treatment facility to achieve desired effluent water quality criteria in accordance with the NPDES permit;
(e) Operate and maintain the air pollution control systems to meet all air emission criteria as developed by the State of Michigan;
(f) Operate and maintain the sludge dewatering equipment to achieve an effective and efficient solids management program and provide for a service to transport and dispose of dewatered sludge;
(g) Perform all required and preventative maintenance of facility equipment ;
(h) Maintain all system operating records in the existing electronic database; and
(i) Accurately prepare and submit all documentation and reports as required directly to the State of Michigan and / or the USEPA and / or the USACE in accordance with the mandated timeframes.

1.6 Meetings

1.6.1 PARTNERING MEETING

The Government intends to encourage the formation of a cohesive partnership with the Contractor. This voluntary Partnership should be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objective is effective and efficient overall contract performance. Following contract award, appropriate personnel from the Contractor's and major sub-contractor's organizations, USACE, USEPA, and MDEQ will be encouraged to meet together for a ½ day team building workshop at location to be determined. Follow-up workshops may also be encouraged. The suggested Contractor and sub-contractor attendance may include the home office Project Manager, and the Laboratory Manager / Report Administrator, with attendance by other O&M staff also encouraged.

1.6.2 PROGRESS MEETINGS

On-site monthly progress meetings will be required following the initial Partnering session to formally update / inform the USACE, USEPA and MDEQ of site-related activities and schedules. These meetings shall be conducted and documented in detail by the Contractor, with final meeting minutes distributed within one-week of the meeting. Meeting format and agenda's shall be as agreed to by all involved Partners and may vary depending upon circumstances. Contractor / sub-contractor attendance shall include the home office Project Manager, Operations Manager and the Laboratory Manager / Report Administrator.

1.7. Submittal Requirements

1.7.1 GENERAL

The Contractor shall submit all items listed on the Submittal Register or as specified in this package. The Contracting Officer may request submittals in addition to those listed. Each submittal shall be in sufficient detail to allow determination of compliance with the contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each respective transmittal form (ENG Form 4025 – attached in Appendix D) shall be stamped, signed, and dated by the CQC representative certifying that the accompanying submittal complies with the contract requirements. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall be approved prior to the acquisition of the material or equipment. A minimum of twenty calendar days, exclusive of mailing time, shall be allowed for review and approval.

1.7.2 CONTRACTOR RESPONSIBILITIES

The Contractor is responsible for total management of all work including scheduling, control, and certification of all submittals; and shall review each sub-contractor submittal for contract compliance. The Submittal Register will be utilized to log and monitor all submittal activities. No activities shall be performed prior to required approvals of applicable submittals. The Contractor shall perform a check to assure that all materials and/or equipment have been tested, submitted and approved during the preparatory phase of quality control inspections.

1.7.3 DISAPPROVED SUBMITTALS

The Contractor shall make all required corrections and promptly furnish a corrected submittal in the form and number of copies as specified for the initial submittal.

1.7.4 TRANSMITTAL FORM (ENG Form 4025)

The sample transmittal form (ENG Form 4025 - attached) shall be used for submitting in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor.

1.7.5 SUBMITTAL PROCEDURE

1.7.5.1 Procedures

"For Approval" Submittals

Each submittal which is in the form of a plan, report, catalog and descriptive data, or other such document shall be submitted in five (5) copies utilizing the ENG Form 4025. Catalog cuts and other descriptive data which have more than one model, size, or type or which shows optional equipment shall be clearly marked to show the model, size, or type and all optional equipment which is proposed for approval.

Each required submittal which is in the form of a drawing shall be submitted as one (1) reproducible and four (4) prints of the drawing. Drawing prints shall be either blue or black line permanent-type prints on a white background or blueprint. Reproducibles shall be sufficiently clear for microfilm copying. Submittals on component items forming a system or that are interrelated shall be submitted at one time as a single submittal in order to demonstrate that the items have been properly coordinated and will function as a unit.

All items listed as submittals in the various sections or on the Schedule of Submittals, except "For Information Only" submittals, shall be mailed as directed by the on-site Government representative.

"For Information Only" Submittals

Data for all items listed, as "For Information Only" (FIO) Submittals in the various sections shall be submitted in five (5) copies using the ENG Form 4025. Approval of the Contracting Officer is not required on information only submittals.

Certificates of Compliance

Each certificate shall be signed by an official authorized to certify on behalf of the manufacturing company, and shall clearly state what is being certified. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies.

Purchase Orders

Copies of purchase orders shall be furnished to the Contracting Officer when the Contractor requests assistance for expediting deliveries of equipment or materials. Each purchase order for materials and equipment shall be clearly identified, carry an identifying number, be in sufficient detail to identify the material being purchased, and indicate a delivery date.

Operation and Maintenance Instructions and/or Manuals

Operations and maintenance instructions and/or manuals with parts lists included shall be assembled in three-ring binders with index and tabbed section divider and having a cover indicating the contents by equipment or system name and project title. Each O&M manual shall contain a copy of all warranties. If field-testing requires revisions, the revisions shall be updated and resubmitted for approval within 10 calendar days after completion of tests.

1.7.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall describe the reason for any deviations and annotate such deviations on the submittal.

1.8. Submittal Register

Several documents are necessary to be submitted prior to beginning work and continuing throughout the contract duration. Some submittals require direct transmittal to the MDEQ-WD. Many of these submittals require Government approval, while others are provided to the USACE "For Information Only." These requirements are discussed and noted within the text of this contract. Following contract award, a "Submittal Register" and additional transmission information will be provided to the Contractor as tools to track the activity associated with each required submittal. The types of submittals that may be required include, but are not limited to:

Transition Plan	Staffing Plan
Personnel Qualifications / Certifications	Air Sampling Results
Site Safety and Health Plan Addendum	Complete Manifest Package
Sampling Analysis Plan (SAP): (a) Quality Assurance Project Plan (QAPP) (b) Field Sampling Plan (FSP)	Land Disposal Restriction Waste Profile Sheets
Supplements to O&M Manuals	Monthly Reports
Site Control Logs	Maintenance Logs
Extraction Well Preventative Maintenance Plan	Discharge Monitoring Report
Site Security Program	Calibration Reports
Daily Operating Logs	Training Plan
Monitoring Well Static Water Levels	CQC Plan
NPDES Compliance Reporting	Notifications

1.9. Submittal Descriptions

Notification of Unscheduled Maintenance Activities. Notification shall be made to the Contracting Officer prior to proceeding with unscheduled maintenance activities in the event they are required. The Contractor shall promptly notify the CO per paragraph 5.5. of Section C.

Notification of Unscheduled Shut-Down. Notification shall be made to the Contracting Officer, USEPA, and MDEQ in the event of any unscheduled plant shut-down. Procedures to follow are defined in the facility O&M manual. The Contractor shall provide written notification to the CO per paragraph 5.3.3. of Section C.

Operating Logs. Operating logs shall be generated on a daily basis from the data input to the OS-GTF Microsoft Access Database. The logs shall be completed daily and compiled weekly for submittal to the Contracting Officer during the first three (3) months of operation. After this period and upon approval of the contracting officer's on-site representative (COR), the daily logs shall be compiled and submitted every

two weeks or as defined by the COR. The Contractor shall submit Operating Logs in accordance with paragraph 5.4.1. of Section C.

Site Safety and Health Plan (SSHP). The Contractor shall submit a SSHP or SSHP addendum prior to assuming operational responsibilities in conformance with Paragraph 2 of Section C: Safety, Health and Emergency Response to address task-specific considerations for the operation of the extraction and treatment system as specified herein.

Supplements to the Facility Operation and Maintenance Manual. The Contractor shall, as a minimum, annually update the facility O&M Manual for the ground water extraction and treatment system in accordance with paragraph 5.11. However, at any time an O&M change necessitates revision to the manual, that portion of the manual shall be updated and submitted.

Operator Certification / Qualification. Operations staff (superintendent, operators, and lab chemists) certifications and qualifications shall be submitted in conformance with paragraph 4.1. of Section C to the CO prior to initiation of start-up.

Transition Plan: The Contractor shall submit, prior to assuming operational responsibilities, a plan documenting procedures and timetable of all activities associated with the transfer of the facility O&M from the current Contractor. The plan shall detail the activities for staffing, equipment and utility transfer.

Follow-on Contractor Training Lesson Plan: A plan detailing the activities associated with training a follow-on Contractor upon completion of this contract shall be submitted for approval per Paragraph 5.2 of Section C.

Sampling and Analysis Plan / QAPP & FSP: The Contractor shall submit a SAP to meet the requirements of paragraph 3 of Section C.

Discharge Monitoring Report: This report shall be submitted directly to the MDEQ in a preferred electronic format in conformance with paragraph 8.3 of Section C and received by the 10th of the month following each operational month. In addition, all applicable reports as required by the facility NPDES permit (Appendix A) shall be provided. These include, but are not limited to reports on permit noncompliance, spills, treatment plant upsets, treatment unit bypasses, changes in facility discharge, etc..

Extraction Well Preventative Maintenance Plan. Revisions to the plan provided within this package must be submitted to the COR for approval prior to implementation.

Site Security Plan: A plan detailing the provisions and procedures utilized to ensure site security and control access shall be submitted to the COR for approval two weeks prior to assuming operational responsibilities for the facility. The plan shall be in accordance with the requirements of paragraph 5.5.3. of Section C.

Monthly Report. A report in conformance with paragraph 8.4. of Section C shall be submitted by the 14th of the month following each operational month.

Extraction Well PM Summary Form. The attached Table 7 “OS Extraction Well Preventative Maintenance Summary Form” shall be submitted within 24 hours of data collection following each specific capacity calculation event and / or PM cleaning episode.

Extraction Well Pump Test Statement and Certification. Prior to performance of extraction well pump inspection, cleaning and testing, a statement shall be submitted to the COR for approval stating the qualifications of the proposed vendor. Upon completion of extraction well pump testing, a certificate shall be submitted to the COR stating the tests performed and summarizing the condition of the pump.

1.10. Accommodations for Government Inspectors

1.10.1 OFFICE FACILITY

The Contractor shall furnish a temporary office facility with a minimum 256 square feet of floor space. All utilities (including communication, heat, air conditioning, electric and water) are to be provided and paid for by the Contractor as part of the utility allowances included as a part of this contract. All required utilities shall be in working order and shall be maintained the entire contract period. Custodial services to perform monthly cleaning (consisting of but not limited to sweeping / scrubbing the floor, dusting, collection and disposal of trash, window washing and toilet / sink cleaning) and all necessary maintenance shall be provided.

The cost of separate and independent telephone service shall be borne by the Contractor and shall include long distance service. One (1) voice lines shall be provided. A telephone answering machine with date and time feature shall be provided. Exterior lighting that is kept lighted at night and on weekends / holidays shall be provided and maintained. These facilities and equipment are to be provided for exclusive use by Government personnel.

2. Safety, Health, & Emergency Response

2.1. General

Due to the nature of contaminants and safety hazards associated with facility operation, emphasis must be placed on the health and safety of on-site personnel and the surrounding community during all aspects of the Long-Term Operation and Monitoring activities. The Contractor shall review all provided information and develop documents which contain the health and safety criteria, procedures, and practices sufficient to protect on-site personnel, the environment, and potential off-site receptors from the chemical and physical hazards particular to the site. The Contractor may utilize the approved existing site Safety and Health Plan (SSHP) and provide an addendum to the existing plans to meet any company specific health and safety requirements, or the Contractor shall complete its own plan for approval by the Government. The Contractor shall formally submit the required information as a new submittal or as an addendum to the existing SSHP. The current Contractor's SSHP and the facility O&M Manual will be available for review during the facility walkthrough.

2.1.1 CERTIFIED INDUSTRIAL HYGIENIST (CIH).

The Contractor shall utilize an industrial hygienist certified by the American Board of Industrial Hygiene (ABIH) to develop, implement, and oversee all safety and health related aspects of this Contract. The CIH shall inspect the OS-GTF on a quarterly basis for the first year, and upon the determination of the Contracting Officer, semiannual inspections will be performed thereafter for the duration of the contract. The CIH shall be available for consultation on an as needed basis. The minimum qualifications of the CIH shall include:

- A minimum of three (3) years working experience in HTRW activities.

- Demonstrable experience in air monitoring techniques and in development of respiratory protection and personal protective equipment programs for working in potentially toxic atmospheres.
- Working knowledge of applicable federal, state, and local occupational safety and health regulations.
- Confined space entry training.

2.2. References

The Contractor's Safety and Health documents shall comply and reflect the following applicable regulations and publications:

- Federal Acquisition Regulation (FAR) CLAUSE "Accident Prevention" (52.236-13)

- U.S. Army Corps of Engineers (USACE), Safety and Health Requirements Manual, EM 385-1-1.

- U.S. Army Corps of Engineers (USACE), ER 385-1-92, Appendix B, Safety and Occupational Health Document Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities.

- Occupational Safety and Health Administration (OSHA) General Industry Standards, 29 CFR 1910, and Construction Industry Standards, 29 CFR 1926; especially 29 CFR 1910.120 / 29 CFR 1926.65 - "Hazardous Waste Site Operations and Emergency Response".

- NIOSH / OSHA / USCG / EPA, "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities", October 1985. (DHHS (NIOSH) Publication No. 85-115)

- Other applicable federal, state, and local safety and health requirements.

USACE publications are available at www.usace.nwo.army.mil in the publications menu. The EPA website is www.epa.gov. The OSHA website, with links to the NIOSH requirements, may be found at www.osha.gov.

2.3. Description of Work

This section provides additional requirements for implementing the accident prevention provisions of \-EM 385-1-1-\, and specifies a Site Safety and Health Plan (SSHP) which shall satisfy the requirements for submission of a separate Accident Prevention Plan (APP) as required by \-EM 385-1-1-\. The requirements shall apply to work performed in both "contaminated" and "clean" areas.

2.3.1 REGULATORY REQUIREMENTS

Work performed under this contract shall comply with \-EM 385-1-1-\, applicable Federal, state, and local safety and occupational health laws and regulations. This includes, but is not limited to, Occupational Safety and Health Administration (OSHA) standards, \-CFR 29 Part 1910-\, especially Section .120, "Hazardous Waste Site Operations and Emergency Response" and \-CFR 29 Part 1926-\, especially Section .65, "Hazardous Waste Site Operations and Emergency Response". Matters of standards interpretation shall be submitted to the COR for resolution before starting work. Where the requirements of this section, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

2.3.2 SAFETY AND HEALTH PROGRAM

OSHA Standards \-CFR 29 Part 1910-\, Section .120 (b) and \-CFR 29 Part 1926-\, Section .65 (b) require employers to develop and implement a written Safety and Health Program for employees involved in hazardous waste operations. The site-specific program requirements of the OSHA Standards shall be integrated into one site-specific document SSHP. The SSHP shall interface with the employer's overall Safety and Health Program, and the O&M Manual. Any portions of the overall Safety and Health Program that are referenced in the SSHP shall be included as appendices to the SSHP.

2.3.3 SITE SAFETY AND HEALTH PLAN (SSHP)

A SSHP has previously been developed for O&M of the OS-GTF, and sampling of monitoring wells at the site. The Contractor shall addend the existing SSHP, or prepare a new site specific SSHP. The SSHP shall be approved by a CIH with experience in HTRW activities. The original SSHP was prepared to cover onsite work to be performed by the Contractor and all subcontractors. The Safety and Health Officer shall be responsible for the development, implementation and oversight of the SSHP. The SSHP shall establish, in detail, the protocols necessary for the anticipation, recognition, evaluation, and control of hazards associated with each task performed including operations and maintenance activities and groundwater monitoring activities. The SSHP shall address site-specific safety and health requirements and procedures based upon site-specific conditions. The level of detail provided in the SSHP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated. The SSHP shall address anticipated tasks, their related hazards and anticipated control measures.

2.3.4 ACCEPTANCE AND MODIFICATIONS

Prior to submittal, the SSHP shall be signed and dated by the CIH. The new or amended SSHP shall be submitted for review and approval 14 days following notice to proceed. A copy of the written SSHP shall be maintained onsite. As work proceeds, the SSHP shall be adapted to new situations and new conditions. Changes and modifications to the accepted SSHP shall be made by the CIH with the knowledge and concurrence of the Safety and Health Officer, the Operations Manager, and the CO (as specified in accordance with the task order).

2.4. Staff Organization, Qualifications, and Responsibilities

An organizational structure shall be developed that establishes chain of command responsibilities and communication procedures concerning site safety, health, and emergency response. This structure shall cover management, supervisors and employees of the Contractor and subcontractors. The structure shall include the means for coordinating and controlling work activities of subcontractors and suppliers. The SSHP shall include a description of this organizational structure as well as qualifications and responsibilities of each of the following individuals. The Contractor shall obtain the CO's acceptance before replacing any member of the Safety and Health Staff. Requests shall include the names, qualifications, duties, and responsibilities of each proposed replacement.

2.4.1 SITE SAFETY AND HEALTH OFFICER (SSHO)

An individual and at least one alternate shall be designated the Site Safety and Health Officer (SSHO). The name, qualifications (education and training summary and documentation), and work experience of the Site Safety and Health Officer and alternates shall be included in the SSHP. The SSHO shall assist and represent the CIH in the continued implementation and enforcement of the approved SSHP. A SSHO may

perform other duties. The SSHO shall have the on-site responsibility and authority to halt work if working conditions which affect on-site / off-site safety and health change. This individual and the qualifications of the position shall be provided within the SSHP submittal. The minimum qualifications of the SSHO shall include:

- A minimum of two (2) years working experience at hazardous waste sites where EPA Level C and Level B personal protective equipment was required.
- Specialized training in personal and respiratory protective equipment, program implementation, and in proper use of air monitoring instruments, air sampling methods, and interpretation of results.
- Certification of training in First Aid and CPR by a recognized organization such as the American Red Cross.
- Working knowledge of applicable federal, state, and local occupational safety and health laws, regulations, and guidance.
- 40-hour HAZWOPER training and annual 8-hour refresher training

3. Chemical Quality Management

3.1. Use of onsite/offsite labs

The onsite USACE validated laboratory at the OS-GTF has the capability to analyze for National Pollutant Discharge Elimination System (NPDES) permit reporting requirements, VOC and SVOC for groundwater modeling and to verify / optimize GTF operation. The primary analysis completed is volatile organic compounds (VOCs) by EPA Methods 624 / 8260B. The laboratory contains a variety of instrumentation to complete the VOC analyses as well as alkalinity, biomass / carbon, CBOD, COD, DO, hardness, biological activity, ammonia, nitrate-nitrite, pH, settleable matter, TKN, total phosphorous, total solids, total suspended solids, and volatile suspended solids. The onsite laboratory utilizes two Hewlett Packard GC / MS packaged system to complete the required VOC and SVOC analyses. The laboratory contains additional equipment to complete the required water quality and operation parameters discussed above including distilled / deionizer systems, microscope, centrifuge, refrigerators, freezers, lab oven, muffle furnace, desiccator, scale, hot plate, HACH spectrophotometer, COD reactor, conductivity meter, dissolved oxygen meter and probes, pH meter and probes, ammonia ion selective electrodes, TKN digester, BOD Trak, automatic pippeters, and thermometers. Equipment is listed in Table 16, “Laboratory Supplies”.

An offsite USACE validated laboratory is used for the analysis of TOC, amenable cyanide, metals (copper, zinc, vanadium, and mercury), semivolatiles, pesticides and volatiles for the air sample analysis. Laboratory validation requirements are discussed in the paragraph “Laboratory Validation”.

3.2. Chemical Quality Management

This section identifies the current laboratory support needed, project staff, and the documents required to perform project support activities. The Contractor can utilize onsite and offsite laboratory support services. Field-testing, field laboratory, and fixed laboratory services shall be used either in combination or individually depending on the project circumstances. The Contractor can utilize the onsite laboratory to perform four of the general chemistry tests and VOC analysis for the facility operation and the VOC’s required by the NPDES discharge permit. Onsite analytical support is performed on VOC’s and other analyses (pH, SVOC’s, etc.) required to optimize and operate the facility effectively. The on-site lab has the capability for all quarterly monitoring well analytical for VOC’s and the SVOC’s for the extraction wells. The offsite laboratory has the responsibility for the SVOC for the semiannual monitoring well analytical

testing and analysis, air monitoring testing and analysis, as well as all sludge testing and analysis of all TOC, amenable CN and metals (Cu, Zn, V, Hg), and pesticide / PCB samples. Quality Assurance (QA) requirements may be used by the USACE to verify sample concentrations up to a frequency of 20 coolers filled with samples per year. The Contractor shall provide additional samples and Quality Control (QC) samples for shipment to the Government laboratory. The utilization of the QA program will be at the discretion of the USACE COR.

3.2.1 REGULATORY REQUIREMENTS AND APPLICABLE PUBLICATIONS

The following listed publications form a part of this specification and where conflicts arise between regulatory requirements, the most restrictive requirements shall be followed.

- State of Michigan Department of Environmental Quality, NPDES Permit No. MI0053309 – MDEQ-ERD-Ott / Story SF, 453 Agard Road, North Muskegon, October 1, 2003. This permit and the authorization to discharge shall expire at midnight, October 1, 2007. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information and forms as are required by the department by April 4, 2007. This action will require a modification to the contract.

- United States Army Corps of Engineers (USACE), ER 1110-1-263, Chemical Data Quality Management for Hazardous Waste Site Remedial Activities (latest version).

- EPA Methods of Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600 / 4-82-057, July 1982 (latest revision).

- EPA SW-846, Test Methods for Evaluating Solid Waste Physical / Chemical Methods, 3rd Edition, Final Update I, July 1992 (latest revision).

- EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations, EPA QA / R-5, November 1999 (latest revision).

- EM200-1-3FEB2001

- 40 CFR Part 136, Wastewater samples must be analyzed in accordance with CFR.

- Guidance for the Data Quality Objective Process for Hazardous Waste Site Investigation, EPA QA / G-4H, Final, January 2000.

- 40 CFR 122 EPA Administered Permit Programs: The National Pollutant Discharge Elimination System.

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, EPA540 / R-94 / 012, October 1999 (latest revision).

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, EPA EPA540 / R-94 / 013, February 1994 (latest revision).
- Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992, APHA, AWWA, WEF.

USACE publications are available at www.usace.nwo.army.mil in the publications menu. EPA publications are located on the EPA website at www.epa.gov.

3.2.2 LABORATORY VALIDATION

Prior to sampling and analysis activities, the onsite and offsite laboratory shall be validated by the USACE Hazardous, Toxic, and Radioactive Waste (HTRW)-Center of Expertise (CX) for the contaminants of concern and associated analytical methodology. The laboratory shall use the latest revision of SW-846 methodologies. The Contractor shall coordinate the laboratory validation process with the Detroit District Project Chemist. The Contractor should begin the validation process by submitting the contract laboratory's QA / QC manual and laboratory point of contact following contract award. The lab validation process takes approximately twelve weeks to complete. Until the validation process is complete, the Contractor shall utilize an existing Corps validated laboratory. The Contractor shall coordinate the laboratory validation process with the USACE Detroit District Project Chemist as far in advance as possible.

3.2.3 ANALYTICAL METHODOLOGY

The laboratory shall be a full service lab with the ability to analyze a wide range of analytical methods. The methodology for chemical analysis shall be completed by EPA SW-846, 40 CFR 261 (TCLP), EPA 300 / 600 series, TO-14, or other appropriate methodology. Sample media shall include air, aqueous, soil, and other solid media (e.g., sludge filter cake). The State or EPA may require additional certifications prior to initiation of analysis (e.g., NIOSH or AIHA certifications). The laboratory should have the ability to analyze volatile organic compounds (VOCs) by 8260B, SVOCs by 8270C, herbicides by 8151, target analyte list (TAL) metals by 6010 / 7000 series, cyanide by 335.2, pesticides / PCBs by 8081, total suspended and dissolved solids (TSS and TDS) by 160.2 / 160.3, total organic carbon (TOC) by 415.1, disposal parameters (including flash point and paint filter), method 1631 and 1669 for mercury, 608 for Heptachor Epoxide and 4-4'DDD, 624 and 625 for Purgeable Halocarbons and Aromatics, and other analyses as appropriate. Table 4 entitled "Analytical Methods" indicates required methodologies and minimum detection limits for each water, air and solids parameter currently required to be performed under this contract. Table 5, entitled "Organic Compound List" contains listings of both volatile and semi-volatile compounds for which testing is required. See also the facility NPDES permit attached as "Appendix A" to Section C, that specifically identify analytical methods for some parameters. The onsite and offsite laboratories are validated for the parameters as stated in paragraph 3.2.

3.2.4 FIELD SCREENING

The Contractor may be requested to complete field screening analyses. This may include the collection of samples for immunoassay, colorimetric, or Biological Activity Reaction Tests (BARTs). BARTs are used to determine the presence or extent of biological activity and to determine the need for additional well treatment / sterilization requirements. BARTs may be run on water samples taken from monitoring wells or extraction wells undergoing preventative well maintenance. BARTS should include tests for Iron Related Bacteria (IRB), Sulfate Reducing Bacteria (SRB), Slime-Forming Bacteria (SFB), and Total Aerobic Bacteria (TAB). Other field tests, including colorimetric and immunoassay tests, are commercially available. The use of the BART tests will be at the discretion of the USACE COR. BART test kits will be purchased under the unscheduled maintenance line item as needed.

3.2.5 SAMPLING AND ANALYSIS PLAN (SAP

The Contractor shall develop a sampling and analysis plan (SAP) which includes a Quality Assurance Project Plan (QAPP) and a FIELD SAMPLING PLAN to accomplish the chemistry-related tasks. The Contractor shall meet the provisions of EPA QA / R-5, or the EPA Region V QAPP requirements. The QAPP

will address routine sample collection, handling, monitoring, and analysis requirements established to ensure compliance with all treatment requirements. The Contractor shall meet the detection limits and analytical requirements defined within the NPDES permit. The detection limits will be required for both onsite and offsite analytical analyses. The QAPP shall be reviewed and approved prior to use by the USACE Technical Team to assure that the chemical data collected during this project are scientifically and legally defensible.

3.2.6 SAMPLING

The Contractor shall provide all necessary coolers, sampling equipment, bottles, preservatives, and containers required to accurately monitor the operation of the GTF, or collect water samples for long term monitoring. The Contractor shall operate, calibrate, and maintain all equipment in accordance with the equipment manufacturers' O&M instructions. The Contractor shall follow the sampling plan as indicated in the appropriate tables contained at the end of this Section. The Contractor may be required to collect and analyze grab samples from various locations to monitor the individual unit treatment processes to determine if they are effectively operating, and to assist in locating deficiencies in plant operation. The Contractor shall be trained in proper sampling techniques. The sampling shall be done in accordance with the FSP section of the SAP. Chain of custody forms shall be filled out during all sampling events. The Contractor shall provide for prompt sampling and turn-around of analysis. Weekly samples shall have a 10-day turn-around time and monthly samples shall have a two (2) week turn-around time. The Contractor shall ensure that transportation, chain of custody, and ultimate disposal of samples takes place in accordance with USACE, EPA, and DOT procedures. **Note that analytical test results must be received in a timely fashion to allow receipt of the DMR by the state no later than the 10th of the month following the reporting period. Late results (not just exceedences) constitute noncompliance.**

3.2.7 QUALITY CONTROL (QC) PROGRAM

As part of the QC program the Contractor shall collect duplicate samples for Contractor Quality Control and split samples for Government Quality Assurnace. Trip blanks shall accompany and be analyzed with each cooler of aqueous samples for volatile organic analysis. Of these samples, those analyzed by the Contractor's laboratory are termed "QC samples." Those samples analyzed by a Government or third party laboratory are termed "QA samples." QC samples, which shall be collected by the Contractor and analyzed by the Contractor's laboratory, shall include duplicate samples and trip blanks. The Contractor shall describe in detail in the QAPP how QC samples will be collected, analyzed, recorded and evaluated. The QAPP shall describe corrective measures, which the Contractor will take whenever QC results are outside acceptable limits. The Contractor shall maintain a bound logbook containing all QC data and document corrective actions. Individuals responsible for maintaining QC data shall sign the logbook.

The Contractor shall collect duplicate samples in the same manner as the original samples, and shall use identical containers and methods of preservation, storage, transport, and analysis. At a minimum, the number of QC trip blanks collected and analyzed by the Contractor shall equal one (1) per cooler of aqueous media for volatiles analysis. Trip blanks shall be provided by the analytical laboratory, and shall use identical containers and methods of preservation, storage, and transport for original samples and trip blanks.

Utilization of the QA program will be at the discretion of USACE representatives. When required, QA samples shall include split samples and trip blanks. The Contractor shall describe in the QAPP how QA samples will be collected and transported. QA samples shall be collected with the QC duplicate sample. The Contractor shall be responsible for providing sample containers and trip blanks to be used for QA

samples. Collection procedures shall be identical to those for the QC duplicate samples. The QA program may be increased, reduced, or eliminated by the CO at any time during the project. Off-site analysis may be used in lieu of QA sampling. For the purpose of estimating, the Contractor shall assume 20 coolers filled with samples of the influent and effluent NPDES required VOC, total PO_4, NH_3, $CBOD_5$ and TSS will be sent to an offsite laboratory for confirmation. All onsite and offsite analysis shall be provided in the results packages. All determinations of frequency and use of QA sampling shall be made by the USACE COR. The cost of QA analysis shall be borne by the Government. The shipment of samples shall be paid by the Contractor.

The designated Government QA Laboratory for this project is the USACE Waterways Experiment Station (WES) Quality Assurance Branch (QAB) Laboratory. The shipping address and phone number are:

U.S. Army Corps of Engineers-Omaha District
Attn: CEWES-EE-Q (Sample Custodian)
420 S. 18th Street
Omaha, NE 68102-2586
Phone: (402) 444-4314

The Contractor shall notify the QA laboratory one (1) week prior to the first delivery of samples and at least 48 hours prior notice shall be provided for Saturday sample deliveries. (NOTE: All Saturday deliveries shall be scheduled to arrive at the QA Laboratory prior to noon on Saturday unless special arrangements can be made in advance with the QA Lab.)

The Contractor shall also meet the requirements specified within the State of Michigan Water Division criteria for an acceptable QA / QC program. It is noted that 40 CFR 122.41 (e) requires permit procedures for NPDES permit holders.

3.2.8 DATA ANALYSIS AND REPORTING / DATA VALIDATION AND USABILITY

The Contractor shall describe the system to be used in handling the raw data from the time of analysis until the time of reporting. Full data validation by National Functional Guidelines is not strictly required for the project. The complete data set shall be evaluated for holding times, surrogate recoveries, duplicate result relative percent difference (RPDs), and other applicable QA / QC requirements including Laboratory Control Samples (LCS), and Matrix Spike / Matrix Spike Duplicates (MS / MSD) samples, at a minimum. The extent of validation that should be required is as follows:

Before the data is released from the onsite or offsite lab several levels of review are performed by the laboratory manager. The laboratory manager review consists of checking accuracy of equations, including units, required to determine concentrations and standards are within criteria before analysis is performed. This along with scan interpretation shall be reviewed by supervisor laboratory QA / QC officers. Only when this procedure is performed and the appropriate laboratory data qualifiers are applied as needed will the data be presented to the contractor. These levels of laboratory review of the data package shall be performed on 100% of the data packages.

The contractor shall make a separate review of a portion of the data package obtained from the laboratory. This shall include a check of the calculations, data scans and generally accuracy of the data. A random check of ten (10%) of the data is sufficient. If no gross errors are encountered it can be assumed that the data package as obtained from the laboratory is of sufficient quality that batch validation can be performed. The batch data validation shall be performed on 100% of the data package obtained from the

laboratory. In performing this review the contractor shall use the National Functional Guildelines as a guide. The parameters and QC results that are used in the validation are: 1. Holding times, 2. Sample temperature during shipment and before analysis, 3. Blanks (trip and method), 4. LCS, 5. MS / MSD, 6. Surrogates.

The method blanks, LCS and MS / MSD are specific for each analytical batch which contains samples from this project. The surrogates are spiked into each analytical sample. Data validation consists of comparing the above six items to set project criteria and flagging the data values accordingly. How the specific validation process is to be performed should be covered in the QAPP. The data validation should include the QC samples and parameters and the criteria they must meet. The QAPP part of the SAP shall contain complete discussion of the laboratory data review requirements and qualification and also a discussion of the batch quality control validation to be performed by the contractor.

3.2.9 U.S. Environmental Protection Agency or U.S. Army Corps of Engineers Audit
The contractor should be aware that the on-site laboratory could be audited by the USEPA or the USACE at anytime and should be in an "audit ready" state at all times.

4. Labor Requirements

4.1. Job Descriptions and Qualifications

The current level of staffing for the facility is referenced in the Operation and Maintenance Manual under Section 10.0 STAFFING. It is the responsibility of the Contractor to obtain the necessary staffing for the facility operation. Personnel assigned to this project shall have the required qualifications and certifications as stated in the Operation and Maintenance manual. The qualifications and certifications shall be submitted to the Contracting Officer for approval prior to initiation of the contract period. The qualifications shall include educational and work experience as well as classes or training demonstrating proficiency in operating laboratory equipment or use of the computer software indicated.

The facility is to be physically staffed during regular business hours (typically 0800-1700 hours) Monday through Friday. During off duty hours, operators must be accessible through the treatment facility auto-dialer. Notification of an alarm condition at the GTF must result in a response within one-hour by the on-call personnel. Depending upon the alarm condition, subsequent notification of agency representatives may be required in accordance with existing standard operating procedures defined within the facility O&M manual.

4.1.1. Operations Manager (Lead Operator)

The Operations Manager (Lead Operator) assigns, supervises and reviews the work of employees engaged in facility O&M. In general, the Operations Manager will ensure that the systems are operated in the most efficient and cost-effective manner possible, while still meeting all operating requirements and discharge limits. The manager is responsible for training the staff in proper O&M of all systems, assigning maintenance tasks, preparing work schedules, supervising the preparation of required records and reports, reviewing work performed by operators for completeness and quality, assigning coverage of GTF response after-hours and on weekends/holidays, and for emergency response activities related to all facility alarms. All daily, monthly and quarterly O&M reports (such as the daily log, monthly Discharge Monitoring Report (DMR),

the monthly report of operational activity, quarterly monitoring well report, etc.) will be reviewed and signed by the Operations Manager prior to submittal. The manager will make sure that all bulk chemicals and carbon are in adequate supply and reorder them as necessary. The Operations Manager reviews process parameters and analytical laboratory results to determine any adjustments necessary to optimize the processes.

The Operations Manager shall also provide site tours and facilitate other on-site community-related activities as requested by the COR. Though the Operations Manager may be involved in public relations concerning the site, including plant tours and speaking engagements, all such events must be coordinated through the USACE.

The Operations Manager may also receive periodic direction from the USEPA or MDEQ Project Managers. If these instructions exceed the scope of its contract, the Contractor shall coordinate with the USACE and receive written approval prior to proceeding with the requested activity.

The Operations Manager must have a bachelor degree in a field of engineering or natural science from an accredited university, a State of Michigan Class A Wastewater Treatment Operator License, a minimum of 10 years experience in water or wastewater treatment facility operations, and be knowledgeable and proficient in the computer software and hardware utilized onsite. In addition, the facility has been classified by MDEQ as requiring a designated operator certified in several industrial classifications as dictated by the unit processes at the OS-GTF. These industrial certifications shall be existing or shall be acquired by September 2004, and include the following:

A.1.b (1) *Plain Sedimentation*
A.2.b *Filtration of Wastewater*
A.2.d. *Gas Stripping*
A.2.h. (2) *Filter Press of Sludge*
B.1.a *Sludge Conditioning*
B.2.a. (1) *Chemical Clarification – Chemical Coagulation*
B.2.a (2) *Chemical Clarification – Chemical Precipitation*
B.3.b. *Carbon Adsorption*
C.3.a *Activated Sludge*

The Operations Manager will also work directly with the USACE to provide the necessary supporting documentation showing contractual obligations are being met. The Operations Manager will be responsible for all business related functions as they relate to this contract, including the scheduling of work to be performed by subcontractors. Additional responsibilities include distribution of reports generated by operations staff, submittal preparation, requests for information (RFIs) and system operating reports, proposal preparation in response to USACE-issued RFP's, preparation and submission of payment estimates, and all other duties as required to ensure overall financial management of the project is effectively handled. The Contractor shall utilize a manager who will ensure that all acquisition and contract management (including subcontracts, purchases, rental agreements, subcontract modifications, etc.) is adequately performed. The Contractor is responsible for compliance with federal, state, and local laws and regulations related to contract management and acquisition. In addition, this person shall serve as chairperson of the monthly operating meetings with regulatory personnel, and shall prepare prompt and detailed documentation of all discussions held.

Within the first three months of operation, the Operations Manager shall attend the "Construction Quality Management for Contractors" course, to be locally facilitated by USACE personnel.

4.1.2. Laboratory Manager/Report Administrator

This person is responsible for the establishment of analytical procedures and techniques used in the onsite laboratory, consistent with regulatory requirements. The Laboratory Manager prepares written Standard Operational Procedures (SOPs) for analytical methods utilized in specific tests, trains operators and technicians in proper sampling and analytical procedures, tests and maintains equipment and instrumentation, maintains laboratory inventory and orders supplies. This individual reviews all analytical data for accuracy and verifies that proper QC/QA procedures have been followed. This individual must have a working knowledge of Standard Methods for the Examination of Water and Wastewater (18th Edition), EPA Methods 624 and 625 (currently run onsite), and a working knowledge of methods 608, 1631 and 1669 (offsite analysis). This individual shall also be familiar with analytical methods for some parameters in the NPDES permit Part I.A.2 and 3. This position is also responsible for the final review of reports submitted to regulatory agencies, such as the facility DMR, and for conducting additional studies as directed. This individual shall have a working knowledge of applicable federal, state, and local laws, regulatory issues, RCRA/CERCLA, disposal requirements, and how they may impact the site remediation activities. This individual shall be responsible for coordination of all activities dealing with quarterly monitoring events.

The Laboratory Manager shall be responsible for all regulatory matters and shall complete all hazardous waste manifesting documentation for any hazardous wastes generated at the site, ready for signature by the USACE on-site representative. The lab manager shall also have training in Hazardous Materials Transportation in addition to HAZWOPER 40-hour training and up-to-date 8-hour refresher training certification.

The Laboratory Manager/Report Administrator must have a bachelors degree in chemistry from an accredited university and 3-5 years prior experience supervising personnel in an analytical laboratory performing environmental sampling and analyses (including GC/MS equipment), data review, and QC/QA verification. This position also requires proficiency in the specific computer software and hardware utilized within the laboratory.

4.1.3. Operations Foreman

The Operations Foreman maintains the computerized maintenance program, enters operational and maintenance data, and generates and distributes work orders to facility operators. The foreman assists the Operations Manager in operator supervision and training, and maintains the equipment and spare parts inventory, along with completed work orders.

The Operations Foreman must have an associate degree in a field of natural science from an accredited university, a State of Michigan Class B Wastewater Treatment Operator license, a minimum of 3 years experience in operations of water or wastewater treatment facility operations, and the appropriate industrial certifications required by MDEQ for facility operation (see paragraph 4.1.2).

4.1.4. Laboratory Chemist

Two (2) Laboratory Chemist positions are required to perform daily sampling and analytical testing in the on-site laboratory according to written SOPs. Responsibilities include preparing chemical reagents and test solutions, conducting specific operational tests, maintaining test result records, preparing laboratory bench sheets, and assisting the Laboratory Manager in preparing written reports. The laboratory chemist shall be

capable of operating the facility GC/MS and inorganic analytical equipment and be knowledgeable and experienced with the specific computer software and hardware utilized within the laboratory.

Both Laboratory Chemists are required to have bachelor's degrees in chemistry or related science. At least one of the chemists shall have two years prior experience with similar equipment and shall have performed testing as required under this contract. The other chemist position can be considered to be entry-level.

4.1.5. Administrative Assistant

The Administrative Assistant manages the GTF front office by answering telephones, directing calls, greeting visitors, typing monthly reports, producing operational logs in Microsoft Access, typing memos and letters, and copying and distributing reports as required. Additional responsibilities include creating and maintaining the administrative filing system, purchasing office supplies as necessary, recording staff meeting minutes and maintaining personnel records.

The Administrative Assistant is required to have a high school diploma, additional technical training in Microsoft Office 2000 professional software, be proficient in the use of Microsoft Word, Excel and Access, and have prior work experience in an office setting.

4.1.6. Facility Operators

Facility operators perform preventive and corrective maintenance and repairs on the plant's mechanical, electrical and structural equipment. Their duties include performing all maintenance tasks including those related to the extraction well field, testing process equipment, painting, unloading bulk deliveries of chemicals and supplies, collecting the required water and solids samples, and maintaining facility grounds. Operators record daily measurements and meter readings and inspect all process equipment, documenting any unusual observances that may indicate a problem. If the problem cannot be immediately corrected, it is reported to the Operations Manager or Operations Foreman so the appropriate response can be determined.

Operator tasks are assigned through work orders. In addition to performing the specific work described in the work orders, larger projects such as equipment replacement or repair may be required. Many tasks are performed individually, while other projects involve group efforts that commence only after preparatory discussions have been held to determine the appropriate means to accomplish the required work. Although the goal is to have all operators capable of performing operational and maintenance tasks throughout the groundwater extraction and treatment systems, areas of primary responsibility will be assigned based on training and abilities which are outlined below.

The extraction system operator is responsible for maintaining the extraction wells, monitoring wells, valve vaults and groundwater collection equipment. This employee maintains the well cleaning trailer and equipment; acid cleans wells, collects quarterly groundwater samples and measures aquifer elevations as required.

In addition to performing other required maintenance tasks assigned, one operator can be assigned as the Site Safety and Health Officer (SSHO). This person is responsible for ensuring proper precautions are exercised by employees whenever restricted or exclusion zones are entered. The SSHO also trains staff in the use of safety equipment, maintains this equipment to keep it in good operating condition, presents weekly safety talks, and maintains health and safety records.

The maintenance operator is responsible for grounds-keeping tasks, including lawn mowing and maintenance, landscaping, snowplowing, building upkeep, janitorial duties throughout the GTF complex

including the USACE office trailer, and operation of the filter press dewatering system.

All operators are required to have a high school diploma or trade school training that properly prepares them to perform their assigned duties. All operations personnel are required to have completed 40-hour HAZWOPER training and be up to date with the required 8-hour refresher courses. Operators are strongly encouraged to qualify, prepare for and write examinations for the industrial certifications required by the MDEQ for operation of this site (see paragraph 4.1.2).

4.1.7. Management Support

The Contractor shall designate a home office support Project Manager (PM) for this project who shall be competent, experienced, and knowledgeable in the field of HTRW, water and wastewater treatment plants. This individual is separate and distinct from both the Operations Manager and the Laboratory Manager onsite at the OS-GTF. "Home Office Support" shall be used to designate this individual. The Contractor shall identify the PM before award of the RFP and the PM qualifications, experience and performance history shall be included within the RFP. The PM shall be the single point of contact for the contract, maintaining close communication and coordination with USACE for the duration of the contract, including monthly progress and detailed cost reporting. The PM shall attend monthly partnering / progress meetings to ensure that a solid line of communication is developed between the Contractor, the Corps and the regulatory agencies.

The Project Manager shall have, as a minimum, the following qualifications: A college degree in engineering, construction management, geology, chemistry, or related field. The individual shall have a minimum of ten (10) years experience in Project Management for other contracts / programs, and a working knowledge of applicable federal, state, and local laws, regulations, and guidance.

4.1.9. Additional Home Office Support

In addition to the project manager described in paragraph 4.1.8 above, the successful Contractor shall have available engineering disciplines to assist in trouble shooting assignments provided by the facility operating staff. These disciplines shall include, but not be limited to environmental engineering, mechanical engineering, electrical engineering, chemistry, and geotechnical engineering / geology. This home office support shall be utilized on an as-needed basis to resolve unusual O&M issues that arise during facility operation.

5. Operational & Maintenance Requirements

5.1. Work Description

The Contractor shall be capable of furnishing all labor, materials, equipment (except as provided by the Government), and services required to operate and maintain the OS-GTF. The Contractor shall take immediate corrective action when performance is not acceptable to USACE. The Contractor shall oversee the development and implementation of record keeping, administrative and quality control, and programs.

5.2. Transition Training

5.2.1. Initial Training (Start of Contract)

The successful Contractor shall interface with the existing O&M Contractor prior to assuming O&M responsibility of the GTF. The existing Contractor is obligated to provide onsite training and transition services to the follow-on operating Contractor. The successful Contractor shall completely staff the OS-GTF for a period of three weeks prior to completion of O&M activity under the existing Contractor (end of

contract is currently scheduled for August 29, 2004). The successful Contractor shall shadow the existing staff operators in order to obtain a working knowledge of facility operations. The new operations staff will be provided classroom training on the primary unit processes. This training shall be coordinated through the Corps of Engineers onsite staff.

5.2.2 Exit Transition Training (End of Contract)

5.2.2.1. General

Prior to completion of work under this contract, the Contractor shall provide qualified operating instructors to instruct the follow-on Contractor's operating personnel in the care, maintenance and proper operation of the equipment. The formal training of GTF personnel shall begin one-month prior to the termination of the Contractor's O&M period. The Contractor shall provide classroom training for the new Contractor personnel and up to 2 Government representatives in the O&M of facility equipment.

5.2.2.2 Training

The Contractor shall provide the services of factory-trained specialists to instruct the follow-on Contractor's and Government personnel in recommended operation, and corrective and preventative maintenance procedures for equipment. The qualifications of the instructors shall be subject to approval by the COR. The Contractor shall be responsible for coordinating these services at times acceptable to the COR with a minimum of 14 days prior notice. The Contractor shall provide a combination of classroom and "hands-on" training.

5.2.2.3 Lesson Plans

The Contractor shall submit for approval proposed lesson plans prior to scheduled training. Lesson plans shall include operations, mechanical maintenance, and electrical and instrumentation maintenance requirements for specific equipment systems. Lesson plans shall detail specific instruction topics. "Hands-on" demonstrations shall be described. The Contractor shall indicate the estimated duration of each segment of the training lesson plans. The Contractor shall also define the required operator staff that the training is to address.

5.2.2.4 Training Aids

The Contractor's instructors shall incorporate training aids as required. The training aids shall include text and figure handouts, provided and used during the instruction session. Photocopied class handouts shall be good quality reproductions. Handouts planned for the instruction shall be attached with the Contractor's proposed Lesson Plans. All instructional materials used during the training sessions shall be turned over to the COR upon completion of the training sessions.

5.2.2.5 "Hands-On" Demonstrations

The Contractor's instructors shall present specific "hands-on" demonstrations of common preventative and corrective maintenance repairs involving mechanical and electrical/instrumentation equipment, equipment start-up, shut-down, monitoring procedures, extraction well preventative maintenance methodologies, monitoring well checks, and on-site laboratory testing. The proposed "hands-on" demonstrations shall be described in the Contractor's proposed lesson plans and shall be specific to the actual equipment installed. In any "hands-on" training situation where operations or maintenance personnel participate in the disassembly or assembly of equipment components, the Contractor shall be responsible for such disassembly or assembly.

5.2.2.6 Training Schedule

The contractor shall provide a minimum of 40 hours of training for the various equipment and systems as shown below:

Equipment Description

Extraction System including pumps, pipeline, leak detection system, valves, electrical equipment and controls

Diffused Air Stripper system including tanks, blowers, sump pump system and controls

Biological Treatment System including sludge pumps and controls

Sludge Dewatering System, including filter presses and feed pumps, acid wash system, plate wash system, compressed air system, sludge rack, and freeze protection system and controls

Tertiary Filter System, including filter, influent and effluent tanks, pumping systems and controls

GAC System, including absorption vessels, vessel transfer, flow metering and controls

NPDES System including sampling equipment, metering devices, and controls.

Thermal Oxidation System, including oxidizer components, scrubber components, chemical feed system, spent scrub water system, electrical and controls

Chemical Feed Systems, including phosphoric acid, ferric chloride, powdered activated carbon, and polymer feed

Distributed Control System (DCS)
Supporting mechanical equipment such as fans, sump pumps, HVAC equipment, motor operated louvers, air compressors, etc.

Electric Distribution Equipment, including switchgear, substation transformers, motor control centers, power panels, etc.

Laboratory Equipment and Analysis, including all laboratory requirements

Reporting requirements (including computer system)

Monitoring Well Sampling and Decontamination

5.3. Minimum Performance Requirements

The following is the range of services related to the operation and maintenance of these facilities, including, but not limited to:

- Operation of groundwater remediation facilities including repair, maintenance and incidental construction required to support equipment replacement or upgrades.

- Perform all scheduled and unscheduled maintenance in accordance with the procedures in the O&M Manuals and preventative maintenance (PM) program (MaintainIt) for the facility.

- Long-term monitoring of groundwater monitoring wells and piezometers, including PM activities for the extraction and monitoring well system.

- Laboratory analysis, including execution of paragraph 3 , Chemical Quality Management; and paragraph 6, Analytical Sampling, Testing and Permitting Requirements.

5.3.1. TREATMENT SYSTEM OPERATION REQUIREMENTS.

All effluent water discharged from the facility must meet the requirements set forth in Appendix A, the facility NPDES permit. Acceptable concentrations of contaminants emitted from the air pollution control devices are as indicated in the attached Table 6, entitled "Limitations and Monitoring Requirements for Offgas from Thermal Oxidation Unit Stack." The Contractor shall notify the CO of problems that cause exceedences in the treated water or air quality permit requirements. Activities that require significant troubleshooting and repair shall also be reported. Prompt notification shall be made to the CO prior to proceeding with unscheduled maintenance activities. In the event that effluent water quality exceeds the limits defined in the NPDES permit, or the air pollution control systems are not achieving the required destruction and removal efficiencies, the Contractor shall:

(1) Immediately contact the MDEQ-Water Division (water quality exceedences only);
(2) Take immediate and appropriate action to achieve the required effluent concentrations. Any noncompliance with the NPDES permit will result in the immediate notification of the MDEQ-WD, followed by compliance with all subsequent applicable reporting requirements; and
(3) Notify the CO in writing within 24 hours of the occurrence and provide the information listed in paragraph 5.3.1.

If minor adjustments do not alleviate the problem and the COR has been notified, it may be necessary to reduce flow from the extraction wells at the site. This should only be done after approval of the COR. Under extreme emergency, such as major plant malfunctions, the unit process malfunctioning may be bypassed and portions of the extraction well network may be temporarily shut down in order to make appropriate repairs.

5.3.2. EXTRACTION SYSTEM OPERATION REQUIREMENTS.

When all wells are operating, the required flow rate for each extraction well is as follows:

EXTRACTION WELL NO.	*DESIGN FLOW RATE*	*REQUIRED FLOW*

	(GPM)	*RATE (GPM)*
EW-1	100	100
EW-2	100	100
EW-3	100	100
EW-4	100	100
EW-5	75	85
EW-6a	75	50
EW-7	75	85
EW-8	140	40
EW-9	35	15
EW-10	40	40
EW-11	40	40
TOTAL	880	755

The Contractor shall continuously measure, control, monitor, and record the flow from each individual extraction well to the treatment facility. The Contractor shall monitor and interpret measured ground water levels associated with the drawdowns achieved by the extraction well system to maintain the desired hydraulic barrier for plume control. The contractor shall implement the procedures in paragraph 5.7 "Preventative Maintenance of Extraction Wells" to help maintain the required flow rate as stated above. Necessary adjustments to the extraction well flow rates shall only be made following approval by the COR.

5.3.3. UNSCHEDULED SHUTDOWN.

In the event of any unscheduled plant shut-down, prompt notification shall be made to the CO, the USEPA and MDEQ. Standard Operating Procedures to follow are included in the facility O&M manual. The Contractor shall notify the CO within a 24-hour period, with the following information:

- reason for the problem (e.g. electrical / mechanical / physical breakdown, etc.)
- personnel involved
- required testing and maintenance
- chemical analysis required
- equipment and / or chemicals required
- current status and lessons learned
- anticipated restart date

5.4. Inspection Requirements

5.4.1. DAILY INSPECTIONS

The Contractor shall perform daily site and facility inspections. These inspections shall include, as a minimum:

- Air blowers, such as fans, seals, motors, casing, identification markings and electrical hookups.
- Diffused air stripper, including scaling, plugging or fouling of air stripper diffusers, piping and seals.
- PACT systems, including first and second stage aeration, first and second stage clarifiers, return sludge pumps, and sludge transfer pumps.
- Effluent filters.
- GAC carbon absorbers.
- Sludge collection / storage tanks.

- Seals, plates, filter membranes, and pumps associated with filter presses.
- Chemical feed systems, storage and mixing area.
- Air pollution control systems including the TOU and HCl scrubber.
- Pumps, blowers, compressors, and hydraulic systems for the various unit processes.
- Other items as noted in the facility O&M manual

Operating logs shall be generated on a daily basis from the data input to the OS-GTF Microsoft Access Database. During the first 3 months of operation, the daily operating logs shall be compiled weekly for submittal to the CO. After the first 3 months of operation and upon approval of the COR's on-site representative, the daily logs shall be compiled and submitted every two weeks. A sample Daily Operating Log is attached in Appendix C and shall be used by the successful Contractor. Any variance to the format of the daily log shall be approved by the COR. As a minimum, the daily operating logs shall document daily GTF operational conditions; summarize alarm status; indicate distribution of operator hours worked and describe work performed by each operator that day; and must be reviewed and signed by the Operations Manager.

5.4.2. WEEKLY INSPECTIONS

The Contractor shall perform weekly site and facility inspections. The inspections shall include, as a minimum:

- Groundwater monitoring well and piezometer integrity, such as locks seals, caps, identification markings and grouting.
- Evidence of subsidence or settling at the facility and extraction wells.
- Site security (fences, lighting, window and door locks).
- Scaling, plugging or fouling by bacterial growth on tanks, pumps, level meters, and flow splitters.
- Inspection of the outfall structure and static aerator.
- Other items as noted in the facility O&M manual

5.5. Maintenance

The Contractor is responsible for the inspection, preventive maintenance and unscheduled maintenance of all components of the ground water extraction and treatment systems and treatment grounds. The Contractor shall ensure that all maintenance is performed to maintain a fully operational system. Manual system shutdown shall be only with the prior approval of the CO or COR. The length of time for system shutdown shall be minimized.

See the definition of scheduled and unscheduled maintenance defined in paragraph 1. The contract shall be modified for unscheduled maintenance activities, with the cost of these activities taken from the line item for unscheduled maintenance on the bid form. The Contractor is responsible for promptly notifying the COR of the need to perform unscheduled maintenance and receiving advance authority to proceed by the CO.

When replacing spent granular activated carbon, the replacement carbon shall meet the following technical requirements: Iodine Number – 750.

5.5.1. TREATMENT SYSTEM.

The Contractor shall perform all preventative maintenance of equipment at the frequency recommended by the equipment manufacturer. Both scheduled and unscheduled maintenance shall be performed to ensure uninterrupted facility operation.

5.5.2. TREATMENT FACILITY GROUNDS.

The Contractor shall maintain and provide regular upkeep of the facility grounds. This includes all areas within the fenced portion of the treatment plant and external areas such as at the extraction and monitoring well locations, collection piping leak detection pull ports, around the static aerator, outfall structure and around all valve vaults. The Contractor shall provide for snow removal along all facility roads, parking areas, and walkways between process facilities. The Contractor shall ensure that the lawn is regularly mowed, fertilized and adequately watered to the acceptance of the COR. The Contractor shall maintain the facility perimeter fence to insure its integrity.

5.5.3 SITE ACCESS AND SECURITY

All activities associated with site access and security for the project will be considered normal duties of the operations personnel. The Contractor shall limit and control access to the OS-GTF and monitoring well/extraction well sites. All requirements for persons allowed on site, restricted or limited-access areas or zones on the sites, safety requirements, and sign-in and sign-out procedures shall be defined. The Contractor shall implement a site security program, detailed in a Site Security Plan to prevent unauthorized access and vandalism. This program shall document authorized access to the site and provide for emergency access to the site by external agencies, if necessary. The Contractor shall close and lock all doors and access gates to the facility during those times the facility is not occupied by treatment facility personnel.

5.6. Engineering Support Services

All ancillary design support efforts shall be performed by the USACE or a USACE subcontractor. The operating Contractor could be responsible for design services under this contract. The operating Contractor will be apprised regarding decisions that affect the operation of the OS-GTF.

5.7. Preventative Maintenance of Extraction Wells

5.7.1. SUMMARY

To reduce biofouling and allow the extraction wells to produce at the desired flow rates, a schedule of Preventative Maintenance (PM) has been developed to optimize extraction well operation.
Extraction wells (EW-1 thru EW-9) are 8 inches in diameter and are surrounded by a double filter pack. A flexible riser pipe, extraction well pump, low and high level water sensors and a sounding tube are positioned inside the 8" well. Within the outer filter pack is a 2" diameter rehabilitation well, screened over the same interval as the extraction well. Extraction wells EW-10 and EW-11 have a single filter pack and were designed with above ground enclosures. Surrounding each extraction well are three additional 2" diameter rehabilitation wells, each stationed approximately six (6) feet away from the extraction well. As-built drawings including details of each extraction well are available.

PM consists of adding chemicals to the three surrounding rehab wells and occasionally to the inner rehab well. The requirements contained herein supercede all other direction provided within the facility O&M manuals and shall be the basis for both bidding the work and implementation upon contract award. However, the extraction well PM needs are expected to remain dynamic in nature. The Contractor must assume that the specified procedures, schedules and reporting requirements may vary over the course of this contract. All revisions to be implemented by the Contractor in any of these areas will be communicated to the Contractor by the Government on-site representative.

5.7.1.1 Data Collection

Information collected during the extraction well preventative maintenance activities shall be recorded on a copy of Table 7, "OSC Extraction Well Preventative Maintenance Summary Form," calculations performed, and submitted. The Contractor will be notified by the COR if immediate cleaning is necessary over and

above what is required by paragraph 5.7.2. and if modification of cleaning procedures are necessary. This form will be used to determine whether immediate cleaning is necessary and shall not be modified without prior approval of the COR.

5.7.1.2 Personal Protective Equipment and Safety Requirements

Personal protective equipment (PPE) and safety training shall be in accordance with the Contractor's SSHP. Extraction well PM work has been assumed to be performed in Modified Level D for 80% of the time and Level C for 20% of the time.

5.7.1.3 Chemicals

The combination of chemicals used in treating the wells is known as the Specified Chemical Blend, and utilizes the following: Glacial Acetic Acid (minimum 70% solution) or Glycolic Acid, Sulfamic Acid and ARCC-Sperse CB-4. When mixed, this blend of chemicals must have a pH of less than 2.5 prior to use.

5.7.1.4 Chemical Testing

Occasional testing of the wells may be required using Biological Activity Reaction Test (BART) kits to aid in indicating the aggressiveness of the biofouling. These tests will be performed at an interval directed by the USACE onsite representative. BART test kits will be purchased under the unscheduled maintenance line item as directed by the government COR.

5.7.1.5 Cleaning Equipment

All required equipment for mixing and injecting the chemicals is available at the GTF. A trailer is available to transport the blended chemicals. Other required equipment such as pH meter and testing equipment is also part of the OS-GTF equipment inventory. The Contractor will be required to supply all safety items required for performance of this work.

5.7.2 PREVENTATIVE MAINTENANCE SCHEDULE

A Preventative Maintenance (PM) schedule has been developed (Table 8) based on specific capacity measurements. Specific capacity (SC) is calculated by dividing the well pumping rate in gallons per minute (GPM) by the drawdown in the pumping well, and is expressed as gallons per minute per foot of drawdown. Drawdown is the difference between the non-pumping or static water level (SWL) in the extraction well and the pumping water level (PWL). [GPM/(SWL-PWL)] = SC. The extraction wells need not be turned off to measure the SC. Rather, the water level from a nearby monitoring well as listed in Table 9 will be used. If SC is more than 20% below the baseline value (also listed in Table 9), the well shall be scheduled for immediate PM. Declines in specific capacity of 10 to 20 percent indicate the wells will soon require PM, and scheduling and ordering of chemicals should be considered. Depending upon these SC variables, the Contractor should be prepared to clean each well as often as once every two weeks. Regardless of SC measurements, Table 8 indicates the requirement to perform PM on EW-8 and EW-10 once every two weeks. EW-1, 2, 3, 4, 5, 6a, 7,9 and 11 must receive PM at least once every 6 months. The USACE may require additional events. The attached Table 7 shall be used to document PM activities on the extraction well system.

5.7.3 PREVENTATIVE MAINTENANCE PROCEDURES

Mix PM chemicals. The equipment supplied for mixing and injecting the chemicals includes a 750-gallon polyethylene tank. One chemical application at a well consists of 300 gallons of the specified chemical blend (600 gallons when the plan calls for a additional 300 gallons to be injected in the inner rehab well). Thus, it is possible to mix 600 gallons of acid at one time with the supplied equipment, as periodically required.

The Specified Chemical Blend is to be mixed as follows:

- 200 gallons of clean potable water (hot water shall be used from the facility hot water heater)
- 100 gallons of glacial acetic acid (minimum 70% liquid solution) or Glycolic Acid
- 5 gallons of ARCC Sperse CB-4
- 1 - 50 lb. Bag (granular) of 99% sulfamic acid. Additional sulfamic acid may need to be added to achieve the pH goal of < 2.5

Addition of chemicals into the wells is performed as follows:

Prior to termination of the extraction well pump operation, obtain and note a pH reading from the sampling port in the extraction vault.

Turn off extraction well pump and close manual valve to system.

Open covers to satellite wells.

Using the Blended Chemical Heat Treatment Unit (BCHT), add 100 gallons of heated specified chemical blend beginning at the top of the standing water and equally distribute to the bottom of each satellite well. Flow from the tank is pumped through the BCHT unit, but if the rate is too fast for the well to take, a manual valve on the discharge line can be throttled to slow the flow. When a additional 300 gallons is required in the inner filter pack rehab well, follow the above procedure for the well except add all of the specified chemical blend into the one rehab well.

After all acid has been injected, open the valve to the collection system one-quarter turn.

Turn the pump on for 15 seconds and off for 15 seconds continuously over a 15-minute period.

*** This step will be altered when the additional 300 gallons of acid is added to the inner rehab filter pack. The well shall be turned on for 15 seconds and off for 15 seconds over a 5 minute period.

Collect a sample from the well sample port and test pH. The goal is a 0.5 to 1 pH unit drop from the original measurement. If there is no change in pH, surge the well as stated in the previous step for an additional 15 minutes. If there is still no change in pH, discontinue surging.

*** Step 7 will not be necessary when the extra 300 gallons of acid is added to the inner rehab well.

8. Close the valve and allow well to stand overnight.
9. Following overnight contact, completely open the valve, and turn on the pump to the system.
10. Assure the data required for Table 7 is collected, the form is completed, and is submitted to the COR within 24 hours.

5.7.4 PREVENTATIVE MAINTENANCE OF THE EXTRACTION WELL PUMPS

Due to the biofouling in the wells, the extraction well pumps may require periodic inspection, cleaning and testing. All extraction well pumps shall be removed for inspection and tested at a minimum of once per year. If the wells require more cleaning than the minimum as stated in Table 8, they shall be removed for inspection and testing at least twice per year. If obvious problems are noted with the extraction well, (e.g. the pump rate rapidly reduces from what has been the norm or the pump quits working), the CO may direct the Contractor to remove the pump and have it inspected immediately. For bidding purposes the Contractor

shall assume 11 pump tests will be performed per year as scheduled maintenance. Testing over this limit shall be considered as unscheduled maintenance.

The extraction well pumps have been installed using a flexible hose. Equipment for pulling the pumps is available at the facility. The Contractor will be responsible for pulling the pumps, delivering them to the approved cleaning / testing facility and re-installing them as needed, all as scheduled maintenance activities. The used pumps will be cleaned as necessary and performance tested to determine their condition. Testing will be conducted at peak design output in order to compare existing conditions to original pump performance curves. Upon the completion of extraction well pump testing, a certificate will be immediately submitted to the COR summarizing the tests performed and the condition of the pump. All decisions to replace pumps will be made by the COR.

5.8 Preventative Maintenance Requirements (MAINTAINIT)

The computerized record keeping system currently in use at the OS-GTF utilizes the software program entitled "MAINTAINIT." The Contractor selected under the RFP format is required to continue to utilize the site software and utilize this program as an integral part of the site preventative maintenance program. The "MAINTAINIT" program shall be used to track daily preventative maintenance tasks and log all performed preventative maintenance activities. The contractor may propose their own preventive maintenance software provided they can demonstrate the program is equivalent to the existing program and will require approval by the Government.

5.9 Electronic Format for Analytical Reports

Analytical information for all quarterly monitoring event sampling and analysis shall be provided in a format consistent with the requirements in the attached document within Appendix B entitled "Contractor Laboratory Electronic Data Deliverable Specifications". The electronic data will then be entered, by a separate EPA contractor, into an environmental information management system (EIMS) entitled EnviroEDGE™. The Contractor shall be responsible for ensuring the proper format is utilized, and must coordinate this as needed with the off-site laboratory providing the analytical results. The results shall be electronically transmitted and mailed directly to the firm utilizing EnviroEDGE™. Addresses will be provided to the Contractor following contract award. This information is used to define the effectiveness of the OS-GTF remediation effort.

The contractor shall fill out and submit the Monthly Discharge Monitoring Report (DMR), OMB No. 20400004, in accordance with the Michigan Department of Environmental Quality, Water Division requirements. The DMR format is preferred to be submitted in electronic format as stated in paragraph 8.3.

5.10 Requirements for Service Contracts

Service contracts to be required under this contract include, but are not limited to the work efforts listed below. Additional details may be found within the facility O&M manual.

1) Process Air Compressors Preventative Maintenance (Ingersoll-Rand)
2) Laboratory GC / MS Maintenance and Repair (Hewlett-Packard)
3) Laboratory Analytical Services
4) Plant Alarm and Security
5) Yearly Flow Meter Testing / Calibration
6) Infrared Testing of Electrical Equipment
7) Image Processing for copier (Konica)

8) Maintain IT services

5.11. Miscellaneous Requirements.

In addition to the requirements specifically identified herein, the Contractor is to ensure that trash removal service is provided on at least a weekly basis and the floor mats throughout the facility are cleaned at least monthly. Also, the Contractor shall provide a truck with a one-ton towing capacity for work associated with the extraction well maintenance and snowplowing activities. No government-furnished vehicle will be provided.

5.12. Supplements to the Facility Operation and Maintenance Manual.

The Contractor shall annually update the facility O&M Manual. The Contractor is required, however, to keep the O&M manual current and on-site at all times. Anytime an operating or maintenance change necessitates revision to the O&M manual, that portion of the manual shall be updated and submitted to the COR.

6 Analytical Sampling, Testing and Permitting Requirements

6.7 NPDES Requirements

The National Pollutant Discharge Elimination System (NPDES) permit requirements are included as Appendix A to this RFP package. Specific analytical requirements are dictated within the permit. The Contractor shall ensure that the OS-GTF meets the discharge requirements and conforms with the monitoring and reporting requirements dictated within the permit.

6.2. Ground Water and Air Emissions Quality Monitoring

The Contractor shall collect and analyze ground water samples from the monitoring and extraction wells specified on Table 10, entitled “Quarterly Monitoring Scope” at a frequency of one sampling event every three months for a total of 4 sampling events per year. These sampling events shall take place during the months of September, December, March and June of each year. The Contractor shall purge each monitoring well as indicated on Table 10 prior to sample collection, and shall read and document the water level before purging the well and immediately prior to sample collection. Purge water shall be containerized and transported as required to the OS-GTF for treatment.

Ground water and air emissions sampling and analysis and data management procedures shall be in accordance with the approved SAP prepared as specified in Chapter 3: Chemical Quality Management. Each ground water sample shall be analyzed using the methods specified in Table 4, entitled “Analytical Methods”, for the organic compounds identified in Table 5, entitled Organic Compound List”. Frequencies and locations are identified in Table 11, entitled “Sample Location and Frequency – Analysis Performed by Onsite Laboratory” and Table 12, similarly entitled “Sample Location and Frequency – Analysis Performed by Offsite Laboratory.” For bidding purposes, the Contractor should follow Tables 13 and 14, entitled “Estimated Quantity of Samples for One Year of Operation.”

6.2.1 QUALITY CONTROL (QC) SAMPLING

The Contractor shall collect and analyze quality control (QC) samples for all events at the following minimum frequency:

- Duplicates: one for each batch of ten samples or part thereof (10%)

- Matrix spike and matrix spike duplicates: one for each batch of twenty samples or part thereof (5%)
- Trip Blanks: one per sample shipment (aqueous samples for volatiles analysis only)
- Rinsate samples (QC and QA): one for each batch of ten samples or part thereof, except where dedicated sampling equipment is used, in which case no rinsate samples are required.

The estimated quantities of samples to be analyzed per year of operation are identified for both the on-site and off-site laboratories in Tables 13 and 14, entitled "Estimated Quantity of Samples for One Year of Operation".

6.2.2 IN-PLANT SAMPLING LOCATIONS

Sampling locations are summarized on Table 15, entitled "Sample Location Key".

6.2.3 STATIC WATER LEVEL READINGS

Water levels for the extraction wells and associated monitoring well shall be measured and recorded monthly. Water levels shall be measured and recorded with each quarterly monitoring well sampling event at each location as indicated on Table 10, entitled "Quarterly Monitoring Scope". Groundwater measurements shall be taken from the notch on the top of casing. In addition to water levels, the Contractor shall measure and record the total depth of each well. The Contractor shall promptly provide a copy of the results to the on-site Government representative.

6.3. Operation and Compliance Monitoring

Samples shall be collected and analyzed for the locations, frequency, and parameters specified in Tables 11 and 12 (both entitled "Sample Location and Frequency"), Table 5 ("Organic Compound List"), and Table 4 ("Analytical Methods"). Samples collected at locations 1, 14, 15, 16, 17, and 24 shall be submitted to an approved analytical laboratory for chemical analysis in accordance with Contractors QAPP. Analysis of these samples will be used to establish compliance with regulatory requirements. All other samples will be collected and analyzed, also in accordance with the QAPP, to provide process control.

6.4. Solids/Sludge Monitoring

The Contractor shall sample dewatered sludge cake. The sample frequency shall be as required by the disposal facility. The samples shall be a representative grab sample of the dewatered sludge cake. Each sludge cake sample shall be analyzed for the Toxicity Characteristics Leachate Procedure (TCLP) parameters, per Table 4 ("Analytical Methods"). For bidding purposes, the Contractor should follow Tables 13 and 14, entitled "Estimated Quantity of Samples for One Year of Operation." Additional sampling as may be required by a particular disposal facility shall be performed at no additional cost to the Government. Results of the analyses shall be provided to the COR. Sampling shall be conducted in accordance with the Contractor's approved SAP, and all other requirements within this Section.

6.5. Sludge Disposal

6.5.1 TRANSPORTATION AND DISPOSAL OF SOLID WASTE

The Contractor shall furnish all labor, materials, and equipment to properly store, characterize, manifest, transport, and dispose solid waste generated at the OS-GTF. The Contractor is responsible for scheduling, control, and certification of all manifest submittals. **To date, sludge generated through operation of the filter press process has been determined to be non-hazardous**. The Contractor should make this assumption during the preparation of their RFP package. Analytical testing is required on the solid waste as specified above. The Contractor shall be required to be capable of operating the facility should the sludge

be reclassified as a hazardous waste. This may entail significant operating changes in the solids treatment building.

6.5.2 TRANSPORTATION, STORAGE, AND DISPOSAL OF HAZARDOUS MATERIALS

All materials at the site which are determined to be a hazardous waste (including filter cake, recovered sludges, purge water, decontamination fluids, personal protective equipment, spent carbon determined to be hazardous, solvents and other waste streams as appropriate), shall be disposed of in strict accordance with all laws and regulations. Wastes shall be disposed of within 90 days.

Although the Contractor will not be listed as the "generator" at this project, the Contractor shall prepare all generator notification and manifests to comply with the applicable regulations. The Contractor has the option to manage solid wastes in bulk or nonbulk containers / packaging. The Contractor shall prepare and submit the completed notification forms in accordance with \-40 CFR 262-\ paragraph 12 to the Contracting Officer or assigned Government personnel for review, followed by signature by the Contracting Officer or assigned Government personnel, and then file a duplicate with the State of Michigan. The Contractor shall be responsible for filling out necessary forms, applications, and updated generator notification forms, and other required forms as necessary.

6.5.3 SPILL CONTROL

The Contractor shall prevent spills and provide contingency measures for cleanup of potential spills during performance of this contract. The Contractor shall take adequate measures to prevent spills during handling, packing, transportation, storage or other operations performed during this contract. Any spills shall be addressed in accordance with Part II.C.7 of the facility NPDES permit. The COR shall be immediately notified of all spills.

7 Inventory & Supplies

7.1 Inventory Requirements

The Contractor shall perform a quarterly inventory of all supplies. This list must be available for inspection by government personnel. At the conclusion of the O&M contractual period, the Contractor shall ensure that all supplies are restocked.

7.2 Spare Parts

Many of the miscellaneous spare parts (i.e. fuses, lighting lamps, etc…) used throughout the GTF are inventoried and available on site. This list of available parts will be provided upon commencement of this contract and must be updated and maintained by operations personnel at least monthly. The Contractor is not expected to restock these parts without additional reimbursement by the Government. However, the contractor shall be responsible for restocking any part consumed while the equipment is still under warranty.

7.3 Laboratory Equipment and Supplies

Attached Table 16 entitled “Laboratory Equipment & Supplies” indicates all laboratory equipment and supplies, including: Major Instrumentation; GC / MS Miscellaneous Items; Organic and Inorganic Supplies; Standards and Reagents; Glassware; etc. which is provided to allow the on-site laboratory to function and perform the duties as specified herein. Upon completion of the contract, all listed items must be replaced in

the quantities listed, including all laboratory expendables and breakables. Inventory must be kept and updated monthly to account for all items. These lists are not intended to apply for any off-site lab work required.

7.4 Office/Administrative Area Equipment

Attached Table 17, entitled "Office / Administrative Area Equipment" describes all provided office and administrative area equipment, including quantity provided and model / vendor information.

7.5 Miscellaneous Equipment and Supplies & Tools

Attached Table 18, entitled "Miscellaneous Equipment, Supplies and Tools" describes all provided miscellaneous equipment, small tools and miscellaneous supplies, including quantity provided and model / vendor information.

7.6 Safety Equipment

Attached Table 19, entitled "Safety Equipment" describes all safety equipment, including quantity provided and model / vendor information.

7.7 Well Maintenance & Sampling Equipment

Attached Table 20, entitled "Well Maintenance and Sampling Equipment" describes all provided well maintenance and sampling equipment and supplies, including quantity provided and model / vendor information.

Reporting, Deliverables, and Administrative Support

8.1 Record Keeping

The Contractor shall maintain and continually update and refine the computerized record-keeping system in use at the site, detailing all aspects of the extraction and treatment system operation. At a minimum, the computerized records shall include the general items listed below. Paper copies of these records are to be filed at the site and shall not be destroyed without prior approval of the COR.

- Preventive maintenance schedule and completions
- Master equipment list
- Repair and maintenance performed
- Repair parts list
- Equipment vendor list
- Regulatory permits
- Analytical data
- Inventories
- Operating cost / time records
- Maintenance cost / time records
- Safety issues
- Unscheduled Maintenance activities
- Unscheduled Shutdown activities
- Alarm activity

- Daily operating logs including all data used to generate such
- DMR
- Monthly Reports

8.2. Progress Reports/Computerized Information Management System

The Contractor shall provide monthly progress reports using a computerized information management system, or as directed by the COR. Other reports shall be provided on an as-needed basis to the COR. The Contractor shall be required to continue to utilize the existing software packages currently in use at the facility. These include the Microsoft Office 2000, Professional Edition (service release 1)including Access, Excel and Word. Daily Operational logs shall be generated from information which is input daily to the Microsoft Access database. No variation from this methodology is allowable without written permission of the COR.

8.3. Discharge Monitoring Report

The Contractor shall fill out and submit the Discharge Monitoring Report (DMR), OMB No. 20400004, in accordance with Michigan Department of Environmental Quality, Surface Water Quality Division requirements. The DMR is preferred to be submitted in an electronic format as found on the website: https://Secure1.state.mi.us/e2rs/skin/main/FrmGuest.aspx

8.4. Monthly Report

The Contractor shall submit a report monthly to the on-site government representative that provides a narrative of the operations of the plant, a narrative of laboratory activities on and offsite, and a plant O&M day-by-day summary. The report shall also include the following:

- Unscheduled Maintenance Activities
- Unscheduled Shutdown Notifications
- Discharge Monitoring Report
- Health and Safety Activities
- Sampling Activities
- Sample results Summary
- Spreadsheets tabulating operating parameters, chemicals used, power consumption, staffing breakdown, and materials delivery.
- Air Monitoring Results
  Operating Logs are submitted under separate cover as required by paragraph 5.4.1..

Incidental Construction

9.1. General

The Contractor shall be capable of performing all necessary construction field work in response to requirements identified and dictated by the USACE, USEPA and MDEQ to ensure overall site remediation is attained. All incidental construction activities shall be treated as modifications to the contract. The Contractor shall have the capability and experience to perform construction or perform a wide range of services, including, but not limited to installation/repair of support facilities including work involving:

- Earthmoving
- Mechanical
- Electrical/Instrumentation

- Structural
- Analytical sampling
- Plumbing
- Concrete / paving
- Fencing
- Misc. wellfield activities
- Well drilling
- Procurement of supplies / services deemed necessary or requested by agency representatives
- Misc. equipment repair work

9.2. Incidental Construction Quality Control

9.2.1 CONTROL OF ONSITE ACTIVITIES

Contractor Quality Control (CQC) is the means by which the Contractor ensures that the work, to include that of subcontractors and suppliers, complies with the requirements of the contract. The control shall be adequate to cover all operations. The Contractor is responsible for quality control and shall establish and maintain an effective quality control system. The quality control system shall consist of plans, procedures, and organization necessary for produce an end product that complies with governing regulations and contract requirements. The Contractor's' quality control program shall include the three phase inspection system as defined by the government when a modification is issued.

9.2.2 INCIDENTAL CONSTRUCTION SAFETY

In addition to the 3-phase CQC inspection system, the Contractor shall perform daily safety inspections of all incidental construction work in progress to ensure compliance with EM 385-1-1 and other occupational health and safety requirements of the contract. The Contractor shall use his designated Quality Control Staff, including the SSHO, to perform the required inspections and shall supplement the staff with additional personnel as required. All safety inspections shall be documented.

9.2.3 QUALITY CONTROL STAFF

The Contractor's project supervisory staff may be used for quality control unless special skills and knowledge are needed to perform the surveillance or testing or unless otherwise specified in this package. The Contractor's staff member designated as the Quality Control Supervisor must be able to demonstrate the ability to perform correctly the duties required to the satisfaction of the Contracting Officer.

9.3 EXTRACTION WELLS AVERAGE SPECIFIC CAPACITY UPDATES

As new wells are added to the system their calculated baseline specific capacity shall be the result of a step-drawdown or other in well pumping test. After three months of operation the USACE technical team shall review the operational data and recommend a new average specific capacity (ASC) value based on performance characteristics of the new well after reaching equilibrium. It usually takes weeks or months for a well that is newly installed in an extraction system to achieve a stable hydraulic condition. All pump tests are of too short a duration to give a completely accurate number. Failure to update ASC in this way will result in apparent declines in SC requiring testing or rehabilitation when there is no biological issues.

Section E - Inspection and Acceptance

CLAUSES INCORPORATED BY REFERENCE

252.246-7000	Material Inspection And Receiving Report	MAR 2003

Section F - Deliveries or Performance

CLAUSES INCORPORATED BY REFERENCE

52.242-15	Stop-Work Order	AUG 1989
52.242-17	Government Delay Of Work	APR 1984
52.247-34	F.O.B. Destination	NOV 1991

Section G - Contract Administration Data

CLAUSES INCORPORATED BY REFERENCE

252.242-7000	Postaward Conference	DEC 1991

Section H - Special Contract Requirements

CLAUSES INCORPORATED BY FULL TEXT

Security Contract Language for all Corps of Engineers' Unclassified Contracts (PIL 2003-06, 19 Feb 03)

All Contractor employees (U.S. citizens and Non- U.S. citizens) working under this contract *(to include grants, cooperative agreements and task orders)* who require access to Automated Information Systems (AIS), (stand alone computers, network computers/systems, e-mail) shall, at a minimum, be designated into an ADP-III position (non-sensitive) in accordance with DoD 5220-22-R, Industrial Security Regulation. The investigative requirements for an ADP-III position are a favorable National Agency Check (NAC), SF-85P, Public Trust Position. The contractor shall have each applicable employee complete a SF-85P and submit to the U.S. Army Engineer Distrit, Detroit Security Officer within three (3) working days after award of any contract or task order, and shall be submitted prior to the individual being permitted access to an AIS. Contractors that have a commercial or government entity (CAGE) Code and Facility Security Clearance through the Defense Security Service shall process the NACs and forward visit requests/results of NAC to the U.S. Army Engineer District, Detroit Security Officer. For those contractors that do not have a CAGE Code or Facility Security Clearance, the U.S. Army Engineer District, Detroit Security Office will process the investigation in coordination with the Contractor and contract employees.

In accordance with Engineering Regulation, ER 380-1-18, Section 4, foreign nationals who work on Corps of Engineers' contracts or task orders shall be approved by the HQUSACE Foreign Disclosure Officer or higher before beginning work on the contract/task order. This regulation includes subcontractor employees. (NOTE: exceptions to the above requirement include foreign nationals who perform janitorial and/or ground maintenance services.) The contractor shall submit to the Division/District Contract Office, the names of all foreign nationals proposed for performance under this contract/task order, along with documentation to verify that he/she was legally admitted into the United States and has authority to work and/or go to school in the US. Such documentation may include a US passport, Certificate of US citizenship (INS Form N-560 or N-561), Certificate of Naturalization (INS Form N-550 or N-570), foreign passport with I-551 stamp or attached INS Form I-94 indicating employment authorization, Alien Registration Receipt Card with photograph (INS Form I-151 or I-551), Temporary Resident Card (INS Form I-688), Employment Authorization Card (INS Form I-688A), Reentry Permit (INS Form I-327), Refugee Travel Document (INS Form I-571), Employment Authorization Document issued by the INS which contains a photograph (INS Form I-688B).

Classified contracts require the issuance of a DD Form 254 (Department of Defense Contract Security Classification Specification).

(End of Clause)

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	DEC 2001
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	JUL 1995
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 2003
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	JUL 1995
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-11	Price Reduction for Defective Cost or Pricing Data--Modifications	OCT 1997
52.215-13	Subcontractor Cost or Pricing Data--Modifications	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	JAN 2004
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	OCT 1997
52.215-19	Notification of Ownership Changes	OCT 1997
52.215-21	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data--Modifications	OCT 1997
52.219-6	Notice Of Total Small Business Set-Aside	JUN 2003
52.219-8	Utilization of Small Business Concerns	OCT 2000
52.219-14	Limitations On Subcontracting	DEC 1996
52.222-1	Notice To The Government Of Labor Disputes	FEB 1997
52.222-3	Convict Labor	JUN 2003
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	SEP 2000
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	APR 2002
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	DEC 2001
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-36 Alt I	Affirmative Action for Workers with Disabilities (Jun 1998) - Alternate I	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, and Other Eligible Veterans	DEC 2001
52.222-41	Service Contract Act Of 1965, As Amended	MAY 1989
52.222-42	Statement Of Equivalent Rates For Federal Hires	MAY 1989
52.222-43	Fair Labor Standards Act And Service Contract Act - Price Adjustment (Multiple Year And Option)	MAY 1989
52.222-47	Service Contract Act (SCA) Minimum Wages And Fringe Benefits	MAY 1989
52.223-14	Toxic Chemical Release Reporting	AUG 2003

52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1	Authorization and Consent	JUL 1995
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	AUG 1996
52.229-3	Federal, State And Local Taxes	APR 2003
52.232-1	Payments	APR 1984
52.232-8	Discounts For Prompt Payment	FEB 2002
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-11	Extras	APR 1984
52.232-18	Availability Of Funds	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	OCT 2003
52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996
52.237-3	Continuity Of Services	JAN 1991
52.242-13	Bankruptcy	JUL 1995
52.243-1 Alt I	Changes--Fixed Price (Aug 1987) - Alternate I	APR 1984
52.243-5	Changes and Changed Conditions	APR 1984
52.244-5	Competition In Subcontracting	DEC 1996
52.244-6	Subcontracts for Commercial Items	APR 2003
52.246-1	Contractor Inspection Requirements	APR 1984
52.246-25	Limitation Of Liability--Services	FEB 1997
52.248-1	Value Engineering	FEB 2000
52.249-2	Termination For Convenience Of The Government (Fixed-Price)	SEP 1996
52.249-8	Default (Fixed-Price Supply & Service)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	MAR 1999
252.203-7002	Display Of DOD Hotline Poster	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Required Central Contractor Registration Alternate A	NOV 2003
252.205-7000	Provision Of Information To Cooperative Agreement Holders	DEC 1991
252.209-7000	Acquisition From Subcontractors Subject To On-Site Inspection Under The Intermediate Range Nuclear Forces (INF) Treaty	NOV 1995
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	MAR 1998
252.215-7000	Pricing Adjustments	DEC 1991
252.219-7011	Notification to Delay Performance	JUN 1998
252.222-7000	Restriction On Employment Of Personnel	MAR 2000
252.223-7004	Drug Free Work Force	SEP 1988
252.225-7001	Buy American Act And Balance Of Payments Program	APR 2003
252.225-7002	Qualifying Country Sources As Subcontractors	APR 2003
252.225-7012	Preference For Certain Domestic Commodities	FEB 2003
252.232-7003	Electronic Submission of Payment Requests	JAN 2004
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.244-7000	Subcontracts for Commercial Items and Commercial Components (DoD Contracts)	MAR 2000
252.247-7023 Alt II	Transportation of Supplies by Sea(May 2002) Alternate II	MAR 2000
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000

CLAUSES INCORPORATED BY FULL TEXT

52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)

The Government may require continued performance of any services within the limits and at the rates specified in contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor within thirty days.

(End of clause)

52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)

(a) The Government may extend the term of this contract by written notice to the Contractor within thirty days; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least sixty days (60 days unless a different number of days is inserted) before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed five years..
(End of clause)